## State of California The Resources Agency Department of Water Resources Northern District

# Pesticide Monitoring of Surface Waters in the Northern District

#### Memorandum Report

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**April 1990** 

#### Introduction

Pesticides are used throughout Northern California, but most extensively in the Sacramento Valley, for weed and insect control in agriculture and forestry, and also for domestic use, public health concerns, and industry. Pesticides are often applied near surface waters, and, inevitably, some of the pesticide residue enters surface waters during or soon following application through spray drift, rain runoff, agricultural return flow, or infiltration. The main concern about pesticides in surface waters is their potential to be toxic to both people and aquatic life.

The purpose of this investigation was to determine the extent of pesticide monitoring of surface waters in Northern California, and to determine additional monitoring requirements. The study area includes the 13 counties within the Northern District (Figure 1) and those monitoring stations within Sutter and Yolo counties that are located on the Sacramento River and on its major drainages.

The following agencies were contacted for information:

Department of Food and Agriculture (DFA)
Department of Fish and Game (DFG)
State Water Resources Control Board (SWRCB)
Central Valley Regional Water Quality Control Board (CVRWQCB)
North Coast Regional Water Quality Control Board (NCRWQCB)
Department of Health Services (DHS)
Shasta County Agriculture Department
Tehama County Agriculture Department
Tehama County Farm Advisor's Office
Glenn County Agriculture Department
Butte County Agriculture Department
Colusa County Agriculture Department

#### **Past Studies**

In 1964, a report was written on pesticide use that explored the then existing programs, discussed specific deficiencies, and proposed steps to be taken to remedy the deficiencies (Fisher, 1964). The major problem of pesticides in water was determined to be the capability of the aquatic food chain to concentrate persistent pesticides. Monitoring the water

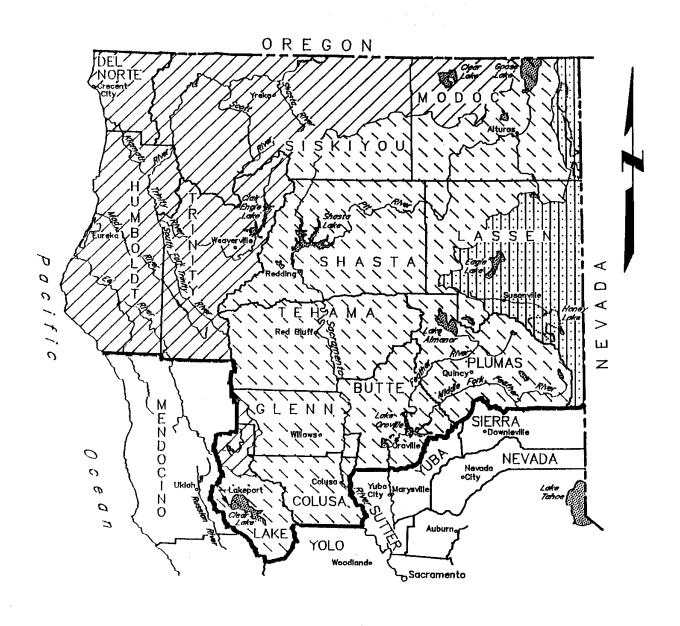




Figure 1. Northern District Counties

environment was realized to be very important in any program of total surveillance for the presence and effects of pesticides. The questions asked then on pesticide levels in the environment and their effects are important and are still being asked today.

The State Water Resources Control Board (SWRCB), in cooperation with an "ad hoc" group of members from state agencies and academic institutions, prepared a report in 1971 which reviewed and summarized historic and current pesticide monitoring within California (SWRCB, 1971). The majority of programs in existence then were found to be of limited duration and for a specific purpose only. The little coordination of programs resulted in duplicated effort, and, more seriously, left significant pesticide emissions unmonitored. Within the Northern District, surface water from Clear Lake had been monitored for DDT and methyl parathion as part of a biological study lead by the U. S. Fish and Wildlife Service. The Department of Water Resources (DWR) monitored inflowing streams to Clear Lake for DDT, BHC, dieldrin, and lindane. Sediment samples from Clear Lake and Upper Blue Lake were analyzed for DDT, BHC, lindane, kelthane, heptachlor epoxide, dieldrin, endrin, and aldrin under a joint agency program. The Department of Fish and Game (DFG) had analyzed fish for DDT, dieldrin, and aldrin at Clear Lake, Colusa Basin Drain, and Red Bluff (SWRCB, 1971).

#### **Current Monitoring Programs**

The Department of Food and Agriculture (DFA) is the lead agency for the regulation of pesticides. DFA is currently working with the DFG and the Central Valley Regional Water Quality Control Board (CVRWQCB) on a study of rice pesticides in the Sacramento Valley from Glenn County to south of Sacramento. This rice pesticide program is the main program in the Sacramento Valley which monitors surface waters for pesticides on a routine basis. Timber pesticide use in the North Coast and Central Valley regions (Figure 1) has been studied by the North Coast Regional Water Quality Control Board (NCRWQCB), the CVRWQCB, and the SWRCB. The SWRCB also monitors surface waters throughout California for its Toxic Substances Monitoring Program. The SWRCB has occasionally monitored pesticides within the Northern District monitoring area at 33 stations since the start of the program. The Department of Health Services (DHS) samples various public drinking water surface sources for pesticides throughout the state. No positive results were reported in the Northern District counties. Some recent limited duration surface water monitoring has been done due to the strawberry fumigation in Shasta and Tehama counties (CVRWQCB, 1984), the wild rice drainage in the Fall River drainage area (CVRWQCB, 1985), and agricultural drainage to Modoc National Wildlife Refuge and Ash Creek Wildlife Management Area (CVRWQCB, 1988). Pesticides were unmeasurable or insignificant in these three studies. The only other time monitoring is done is when there is a complaint or a fish or wildlife kill.

#### Rice Pesticide Program

The cooperative rice pesticide program between the DFA, DFG, and CVRWQCB was developed in an effort to reduce the discharges of rice pesticides into State surface waters. Since 1983, surface waters have been monitored at 9 permanent sites. Of these, only the Colusa Basin Drain at Highway 20 (CBD5) is within the Northern District, and four are within the monitoring area (Figure 2). Monitoring takes place during the rice field discharge period of late April through June. Besides surface water, aquatic organisms are also sampled. A special study was also conducted in 1988 to better understand rice pesticide movement in the Colusa Basin Drain. Nine additional sites were monitored for this study, all of which are within the Northern District. The City of Sacramento monitors the Sacramento River for pesticides at its water treatment plant.

Molinate and thiobencarb are the two major rice pesticides used. A few of the other rice pesticides for which sampling has been conducted are bentazon, carbofuran, carbaryl, and propanil. Both molinate and thiobencarb have been found in agricultural drains and in the Sacramento River at concentrations detrimental to beneficial uses. Molinate in agricultural drains was responsible for the deaths of tens of thousands of fish in the early 1980's (Appendix 1). Bad taste in the drinking water of the City of Sacramento has been attributed to the presence of thiobencarb in the Sacramento River. The highest concentrations of molinate and thiobencarb in the environment (over 2,000 parts per billion (ppb)) were detected in the edible portions of fish during the rice pesticide season (SWRCB, 1984a).

In 1984, DHS and DFG developed guidelines and action levels for molinate and thiobencarb. For the protection of the aquatic environment, molinate was not to exceed 90 ppb and thiobencarb was not to exceed 24 ppb. Primary action levels for the protection of water consumers from adverse health effects was set to 20 ppb for molinate and 10 ppb for thiobencarb. A secondary action level of 1 ppb for thiobencarb was recommended because of the bad taste it could cause in chlorinated drinking water. These action levels were derived using the United States Environmental Protection Agency's (EPA) method which assumes that a 10-kg child consumes one liter of water daily. Based on toxicologic evaluations, molinate is considered to be moderately toxic when taken orally and practically non-toxic when it is applied to the skin. Thiobencarb is slightly toxic when taken orally (SWRCB, 1984a).

Research on molinate showed that longer water retention periods on rice fields would facilitate dissipation. Molinate was placed on the restricted list in 1984 and releases to State waterways were not allowed for 8 days following application. Retention time was increased to 12 days in 1987 and to 14 days in 1988. No fish kills have been attributed to molinate since 1983 and concentrations in the Sacramento River have been well below the primary action level.

Recirculation and ponding of field water was found to facilitate adsorption after studies of thiobencarb's characteristics were made in 1984 (SWRCB, 1984a). Thiobencarb's use has

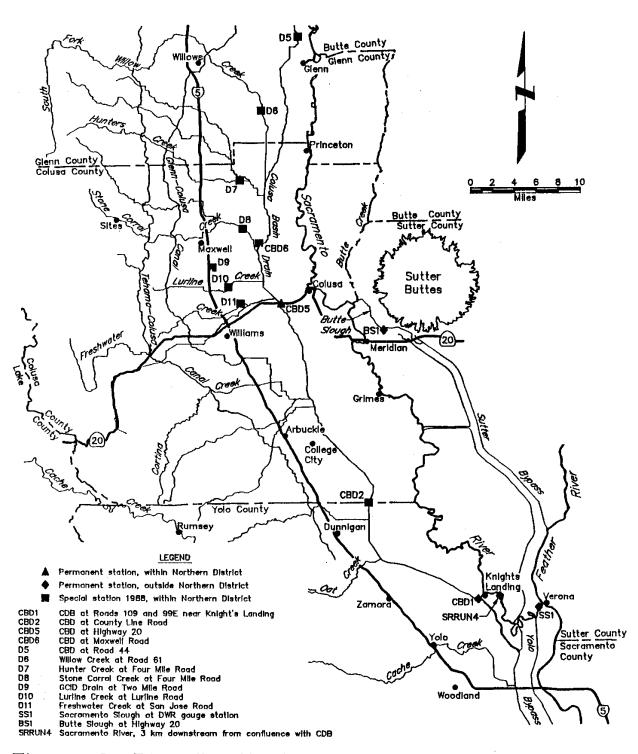


Figure 2. Rice Pesticide Program Monitoring Stations

now been restricted to those farms and districts which minimize thiobencarb discharge by using approved water management practices.

Bentazon is another rice pesticide which has recently been detected in agricultural drains and in the Sacramento River (SWRCB, 1984a). A primary action level of 8 ppb for bentazon has been recommended by DHS. Fields treated with bentazon can not be drained until harvest time. Because of this requirement, bentazon has almost been eliminated from the Sacramento River and the primary action level has never been in danger of being exceeded. The California registration of bentazon has been suspended and its use has not been permitted since 1989 (DFA, 1989a).

A new herbicide, bensulfuron methyl (Londax), has recently been developed and completed the registration process on April 26, 1989. It is expected to be widely used. It attacks broadleaf weeds and sedges as does bentazon. Bensulfuron methyl is applied in amounts of 1.65 oz of active ingredient/acre (DFA, 1989a) as compared to 1 lb/acre for other broadleaf herbicides or 4 lbs/acre for molinate and thiobencarb. When bensulfuron methyl was discharged after a 5 day holding period, concentrations were less than 5 ppb (DFA, 1989b). The detection limit is 0.5 ppb (DFA, 1989a). But since bensulfuron methyl is applied at the same time as molinate and thiobencarb, additional dissipation will occur because of the longer required holding periods. Full field discharge is required shortly after the molinate and thiobencarb holding period in order to prepare fields for bentazon applications, but this will no longer be necessary with bensulfuron methyl. Bensulfuron methyl also has some effect on grassy weeds, which may allow a reduction in the use of molinate and thiobencarb (DFA, 1989b).

No sites within the Northern District are monitored for bensulfuron methyl. So far, the highest concentration of bensulfuron methyl found was 2.08 ppb on May 29, 1989 at the Colusa Basin Drain near Knights Landing (DFA, 1989a; Appendix 1). An action level has not been established yet because bensulfuron methyl first needs to be considered a contaminant. Based on an EPA model, the Allowable Daily Intake (ADI) is estimated to be 1.4 ppm (Marshall Lee, DFA, pers. comm.).

#### **Timber Pesticide Programs**

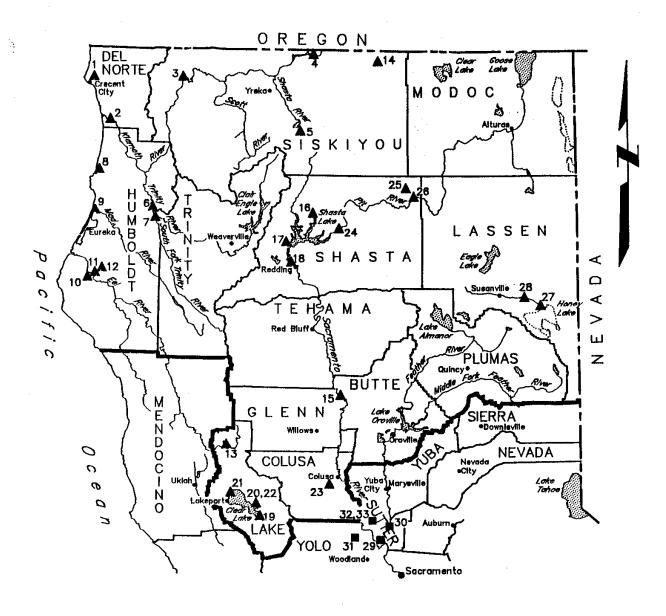
For several years, the NCRWQCB required the United States Forest Service (USFS) and private timber companies to monitor surface waters during and after aerial application of pesticides, such as 2,4–D and triclopyr (Garlon), on timber lands (NCRWQCB, 1985). The use of 2,4–D has been restricted since 1985. Garlon use is not restricted (Charles Green, NCRWQCB, pers. comm.). The results of this monitoring indicated that discharges of pesticides into streams did not occur in over 90% of the spray applications. Of those streams that did have pesticide residue, nearly all were under 10 ppb. The highest concentration found was 30 ppb. Timber companies are still required to monitor after aerial sprays.

In 1983, the SWRCB, the NCRWQCB, and the CVRWQCB studied the use of the pesticide 2.4-D to determine: 1) levels in surface waters during site treatment and subsequent rainfall, 2) whether State water quality objectives were being met at all times, and 3) the efficacy of present best management practices (BMP) in preventing discharges (SWRCB, NCRWQCB, CVRWQCB 1984; NCRWQCB, 1985). Eight sites were monitored in the North Coast and Central Valley regions (Del Norte, Shasta, and Modoc counties). A non-toxic dye tracer that could be detected by a fluorometer was used in the applications at two of the sites to aid in pesticide detection. The results of these studies showed that the State water quality objectives were being met. Some pesticide discharge did occur, but at levels determined to be within limits for the identified beneficial uses of water. The study proposed a number of recommendations concerning BMP's, monitoring, and laboratory analyses. Some of the recommendations are: 1) to routinely use a dye tracer in all aerial applications where beneficial water uses can be affected by the herbicide, 2) to have 2,4-D applicators routinely monitor during application and have Regional Boards observe and occasionally check monitoring activities, and 3) to revise and standardize BMP guidelines and County Agricultural Commissioner permit terms to call for 100 foot buffers along both sides of flowing and dry intermittent streams, and 5 mph or less wind velocities during 2,4-D application.

#### **Toxic Substances Monitoring Program**

The Toxic Substances Monitoring Program (TSMP) was begun in 1976 by the SWRCB and has been operated by the DFG. The purpose of the TSMP is to acquire current, consistant data that represent baseline and trend levels of toxic substances in selected streams and lakes throughout the state (SWRCB, 1985). The types of samples analyzed are primarily aquatic organisms, but occasionally soil, sediment, and water samples are also tested. The toxic substances monitored are trace elements and synthetic organic compounds. Pesticides are part of the latter. Tissues from fish and other aquatic organisms are analyzed on a wet weight basis and a lipid weight basis for the presence of organic compounds by gas chromatography. Lipid weight analyses have been made since 1984. These analyses better reflect the source concentrations of fat–soluble pesticides and show less variability than wet weight analyses. Wet weight analyses, however, are preferred because all standards for predator protection and human health are based on wet weight and they also better reflect the exposure of predators or humans to the actual concentrations in freshly caught fish (SWRCB, 1987).

Within the Northern District, 28 lake and stream stations have been monitored for pesticides at least once since the start of the program (Figure 3, Table 1). Five stations not within the Northern District but within the monitoring area are included in this investigation. Stations are not monitored every year. The SWRCB decides where monitoring should be done each year based primarily upon requests from the regional boards, but requests from other agencies are also considered. If no problems are found, or if the problems have been sufficiently



#### LEGEND

- ▲ 16 TSMP monitoring stations within the Northern District.
- 31 TSMP monitoring stations not within the Northern District but within the monitoring area.

NOTE: See Table 1 for station names.

STATE OF CALIFORNIA
THE RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

Figure 3. TSMP Pesticide Monitoring Stations 1978 — 1987

### TABLE 1. SUMMARY OF TOXIC SUBSTANCES MONITORING PROGRAM STATIONS MONITORED EACH YEAR AND DETECTED PESTICIDES WITHIN THE NORTHERN DISTRICT

| STATION NAME   |          | 978<br>PEST. |     | 1979<br>PEST. |          | 1980<br>PEST. | <br> MON. | 1981<br>PEST. | 1982<br> MON. PE |     | 1983<br>MON. PEST. |        | 1984<br>PEST. |       | 1985<br>PEST. | MON. | 1986<br>PEST. |     | 987  <br>PEST. |
|--|----------|--------------|-----|---------------|----------|---------------|-----------|---------------|------------------|-----|--------------------|--------|---------------|-------|---------------|------|---------------|-----|----------------|
| 1 SMITH R /JED SMITH REDWOOD                           | x        |              | l x |               | <b>x</b> |               | i<br>i x  |               | 1                | ŀ   |                    | !      |               | [<br> |               | 1    |               |     | 1              |
| 2 KLAMATH R / KLAMATH GLEN                             | 1 ^      | 4            | 1 ~ |               | i        |               | 1         |               | ì                | ì   | x                  | į .    |               | l     |               | 1    |               | 1   |                |
| 3 INDIAN CREEK /HAPPY CAMP<br>4 KLAMATH R /COPCO RES   | ł        |              | ;   |               | i x      |               | i         |               | i                | Ī   |                    | ĺ      |               | l     |               | I    |               | Ţ   |                |
| 5 BEAUGHTON CREEK                                      | i        |              | į   |               | í        |               | i         |               | 1                | - 1 |                    | 1      |               | Į .   |               | X    |               | 1   |                |
| 6 TRINITY R /WILLOW CR                                 | i x      |              | i x |               | i        |               | X         |               | 1                | 1   |                    | 1      |               | ļ     |               | ļ.   |               | 1   | . !            |
| 7 TRINITY R/D/S BURNT RANCH                            | i T      |              | i   |               | İ        |               | 1         |               | 1                | ļ   |                    | 1      |               | !     |               | !    |               | , X | g              |
| 8 BIG LAGOON   | i        |              | İ   |               | 1        |               | ı         |               | 1                | ļ   |                    | !      |               | ] _   | _             | i x  |               | į.  | 1              |
| 9 MAD RIVER  | İ        |              | İ   |               | į.       |               | X         | <b>a</b>      | Į                | ļ   |                    | i X    | gh            | X     | g             | 1    |               | x   | - 1            |
| 10 EEL R /SCOTIA                                       | i x      | a            | X   |               | i        |               | 1 X       |               | ļ.               | !   |                    | į X    |               | ļ.    |               | 1    |               | i â |                |
| 11 VAN DUZEN RIVER/MOUTH                               | 1        |              | 1   |               | ļ        |               | 1         |               | Į.               | ļ   |                    | !      |               | ŀ     |               | 1    |               | Ϊ́х |                |
| 12 YAGER CREEK/MOUTH                                   | 1        |              | 1   |               | !        |               | !         |               | !                | . ; |                    | 1      |               | ì     |               | ì    |               | i " |                |
| 13 LAKE PILLSBURY                                      | 1        |              | !   |               | !        |               | i x       |               | !                |     |                    | 1      |               | i     |               | i    |               | i x | a              |
| 14 LOST RIVER/TULE LAKE                                | 1        |              | 1   |               | !        |               | l x       | _             | }                | 1   |                    | 1      |               | i     |               | i    |               | i " | i              |
| 15 SACRAMENTO R /HAMILTON CITY                         | <u> </u> |              | 1   |               | !        |               |           | 4             | 1                | 1   |                    | i      |               | i     |               | i    |               | i   |                |
| 16 MCCLOUD R /U/S MCCLOUD R BE                         | ri X     |              | X   |               | į,       |               | X         |               | 1                | i   |                    | i      |               | i     |               | i    |               | i   | j              |
| 17 SHASTA L /SQUAW CR ARM                              | !        |              | !   |               | i x      | -             | : 0       | а             | ì                | i   |                    | ì      |               | i     |               | İ    |               | X   | ab             |
| 18 SACRAMENTO R / KESWICK                              | !        |              | !   |               | ^        | •             | ; ^       | _             | 1                | i   |                    | i      |               | i     |               | Ì    |               | 1   |                |
| 19 CLEAR LAKE /LOWER LAKE                              | .!       |              | 1   |               | i        |               | 1         |               | i                | i   | *                  | i      |               | İ     |               | ĺ    |               | ŧ   |                |
| 20 CLEAR LAKE /SULPH BANK MINE                         | 5 1      |              | 1   |               | ł        |               | i x       | a             | i                | i   | *                  | ì      |               | ĺ     |               | ŀ    |               | 1   |                |
| 21 CLEAR LAKE /RATTLESNAKE IS                          | ļ        |              | 1   |               | -        |               |           | _             | i                | i   | •                  | i      |               | ł     |               | l    |               | 1   |                |
| 22 CLEAR LAKE /RODMAN SLOUGH                           | ļ        |              | 1   |               | i x      | abcdef        | i x       | abcdefghi     | .i               | i   |                    | İ      |               | ł     |               | 1    |               | ļ   |                |
| 23 COLUSA DRAIN /ABEL RD<br>24 PIT R /PIT 7 POWERHOUSE | 1        |              | i   |               | i x      | a             | i -       | -             | i ·              | ĺ   |                    | 1      |               | ı     |               |      |               | !   |                |
|  | 1        |              | i   |               | i -      |               | i         |               | i                | - 1 |                    | X      | a             | ļ .   |               | ļ    |               | !   |                |
| 25 FALL RIVER<br>26 PIT R/D/S HWY 299 BRIDGE           | i        |              | i   |               | í        |               | i         |               | 1                | 1   |                    | 1      |               | ļ     |               | !    |               | i x |                |
| 26 PIT R/D/S HWI 299 ERIDGE<br>27 SUSAN R/ HONEY LAKE  | i        |              | i   |               | í        |               | i         |               | ŀ                | - 1 |                    | ł      |               | ļ .   |               | İX   |               | ļ   |                |
| 27 SUSAN R/ HUNEI LARE<br>28 SUSAN R /LITCHFIELD       | i        |              | i   |               | i        |               | į X       | ac            | ł                | - 1 | X                  | 1      |               | !     |               | !    |               |     |                |
| 29 COLUSA DRAIN/KNIGHTS LAND                           | ٠i       |              | i   |               | i        |               | X         | abcdfj        | 1                |     |                    | . j X' |               |       | acdfjo        | ļ    |               | 1 * | •              |
| 30 SUTTER BYPASS +                                     | i        |              | i   |               | İ        |               | X         | acdfj         |                  | df  | X adef             | ji x   | acdefilmn     | 1     |               | !    |               | -   |                |
| 31 RECLAMATION SLOUGH +                                | i        |              | İ   |               | į X      | acdefj        | cl X      | ac            | ( X              | a   |                    | !      |               | !     |               | x    | adf           | i y |                |
| 32 SACRAMENTO SLOUGH +                                 | ĺ        |              | İ   |               | 1        |               | 1         |               | ļ                |     |                    | ļ.     |               | !     |               | 1 .  | - CAL         | Ŷ   | -              |
| 33 FEATHER R/D/S HWY 99 BR +                           | İ        |              | I   |               | 1        |               | 1         |               | i                | 1   |                    | ţ      |               | 1     |               | 1    |               | . ^ | •              |

PESTICIDES:

PESTICIDES:
a DDT
b DACTHAL
c DIELDRIN
d CHLORDANE
e TOXAPHENE
f TRANSNONACHLOR

i alpha hch j endosulphan

k HEXACHLOROBENZENE 1 DICOFOL

f TRANSMONACHLOR
f TRANSMONACHLOR
f PENTACHLOROPHENOL (PCP)
h TETRACHLOROPHENOL (TCP)

X AOURTIC

X AQUATIC ORGANISM MONITORED AT THIS STATION

\* SEDIMENT MONITORED AT THIS STATION

+ STATION NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

studied, the station will be dropped to make way for new stations elsewhere. This way, both the objectives of long term monitoring and monitoring as many stations as possible over time can be met (SWRCB,1986a). Samples are collected once each year from the chosen monitoring sites. Because the number of samples analyzed at each station in a single year is small, all concentrations detected are considered to be indicators of relative toxic pollution (SWRCB, 1984b).

Fifteen pesticides have been detected since 1978 within the Northern District monitoring area (Table 1, Appendix 2). DDT was the pesticide most often detected. Other pesticides that were often detected were chlordane, transnonachlor, dieldrin, endosulphan, and toxaphene. PCP and TCP are not part of the normal organic scan and were tested on the request of the NCRWQCB (SWRCB, 1987). Data from 1976 and 1977 are not included because different fish tissues were utilized and analytical techniques were still under development (SWRCB, 1984b).

#### Discussion

The greatest concern regarding pesticide use is the potential toxic effects. Domestic, agricultural, and recreational water supplies can be contaminated by pesticides. At high enough concentrations, pesticides become toxic to both people and aquatic life. Pesticides in water at toxic levels affect aquatic life directly and can cause death, but because many pesticides are capable of bioaccumulating, lower pesticide concentrations can also cause detrimental effects. People can be affected by drinking contaminated water, eating tainted fish, and perhaps through recreational use of surface waters. Guidelines and action levels, such as for rice pesticides, were developed to protect against such adverse effects.

The average yearly pesticide use in the 5 Sacramento Valley counties (Shasta, Tehama, Glenn, Butte, and Colusa) for the period of 1974 to 1987 was 4.6 million pounds and in all 13 counties in the Northern District was 5.3 million pounds (Table 2, Figure 4). The peak year was 1981 with a total use of 6.9 million pounds. Eighty-eight percent of all the pesticides applied in the Northern District are applied in the Sacramento Valley counties. Over 80% of all pesticides are applied to agriculture (DFA, 1974 – 1987), of which less than 15% of the total crop acreage is non-irrigated (Figure 5; DWR, 1974). Data from the most recent DWR Northern District land use surveys support this value. These data on pesticide use provide a good idea of where pesticide problems are likely to exist. Without a routine monitoring program, the amount of applied pesticides entering surface waters and possible problems they may cause are unknown.

Butte County has the highest average yearly pesticide use of all the Northern District counties, yet no routine monitoring is being done there. Most pesticide monitoring programs are developed only if a known problem exists. The rice pesticide program was developed after a

## TABLE 2. REPORTED PESTICIDE USE IN MILLION POUNDS From Pesticide Use Reports DFA, 1974 - 1987

#### NORTHERN DISTRICT

| 1974   | 1975  | 1976  | 1977  | 1978   | 1979  | 1980  | 1981  | 1982  | 1983  | 1984  | 1985  | 1986   | 1987   | AVERAGE   |
|--|---|---|---|--|---|---|---|---|---|---|---|--|--|---|
| 939  |   |   |   |  |   |   |   |   |   |   |   |  |  |   |
| 0.626<br>1.156<br>0.213                            | 0.814<br>1.299<br>0.409   | 1.070<br>0.323  |   | 1.103<br>1.661<br>0.376  | 1.004<br>1.839<br>0.460   | 1.447<br>1.966<br>0.412                                     | 1.591<br>2.069<br>0.424                                     | 1.348<br>2.012<br>0.389                                     | 1.613   | 1.205<br>1.656<br>0.299                                     | 1.069<br>1.280<br>0.266                                     | 0.935<br>1.002<br>0.270  | 1.583<br>1.746<br>0.232  | 1.287<br>1.125<br>1.567<br>0.347<br>0.318                   |
| 2.962  | 3.846   | 3.430   |   | 4.606  | 5.010   | 5.558   | 6.164   | 5.587   | 4.724   | 4.907   | 4.446   | 3.580  | 5.548  | 4.644   |
| 0.127<br>0.069<br>0.071<br>0.003<br>0.012<br>0.002 | 0.079<br>0.079<br>0.030<br>0.012<br>0.013<br>0.002  | 0.097<br>0.185<br>0.052<br>0.005<br>0.014<br>0.016  |   | 0.157<br>0.121<br>0.051<br>0.001<br>0.039<br>0.011<br>0.146  | 0.179<br>0.148<br>0.043<br>0.001<br>0.094<br>0.008<br>0.094   | 0.161<br>0.124<br>0.020<br>0.003<br>0.113<br>0.009<br>0.067 | 0.217<br>0.176<br>0.072<br>0.001<br>0.072<br>0.010<br>0.039 | 0.151<br>0.124<br>0.021<br>0.002<br>0.086<br>0.008<br>0.078 | 0.147<br>0.107<br>0.019<br>0.007<br>0.172<br>0.006<br>0.057 | 0.249<br>0.137<br>0.030<br>0.000<br>0.216<br>0.009<br>0.024 | 0.177<br>0.324<br>0.045<br>0.032<br>0.188<br>0.003<br>0.044 | 0.189<br>0.201<br>0.036<br>0.004<br>0.152<br>0.008<br>0.041  | 0.225<br>0.172<br>0.062<br>0.002<br>0.226<br>0.021<br>0.084  | 0.095<br>0.166<br>0.151<br>0.042<br>0.006<br>0.107<br>0.009 |
|  | -   |   |   |  |   |   |   |   |   |   |   |  |  | 0.652<br>5.296  |
|  | 156<br>1.213<br>1.028<br>1.962<br>1.005<br>1.127<br>1.069<br>1.071<br>1.003<br>1.002<br>1.002<br>1.002<br>1.003 | 1.156 1.299<br>1.213 0.409<br>1.028 0.220<br>1.962 3.846<br>1.005 0.003<br>1.127 0.079<br>1.069 0.079<br>1.071 0.030<br>1.003 0.012<br>1.002 0.003<br>1.002 0.002<br>1.003 0.159<br>1.377 0.377 | 0.626 0.814 0.827<br>.156 1.299 1.070<br>.213 0.409 0.323<br>.028 0.220 0.283<br>.028 0.220 0.283<br>.02962 3.846 3.430<br>0.005 0.003 0.011<br>0.127 0.079 0.097<br>.069 0.079 0.185<br>0.011 0.030 0.052<br>0.003 0.012 0.005<br>0.012 0.013 0.014<br>0.002 0.002 0.016<br>.088 0.159 0.068<br>0.377 0.377 0.448<br>0.339 4.223 3.878 | .156 1.299 1.070<br>.213 0.409 0.323<br>.028 0.220 0.283<br>2.962 3.846 3.430<br>2.005 0.003 0.011<br>.127 0.079 0.097<br>2.069 0.079 0.185<br>2.071 0.030 0.052<br>2.003 0.012 0.005<br>2.012 0.013 0.014<br>2.002 0.002 0.016<br>2.088 0.159 0.068 | 156 1.299 1.070 1.661 1.213 0.409 0.323 0.376 1.028 0.220 0.283 0.326 1.962 3.846 3.430 4.606 1.005 0.003 0.011 0.029 1.127 0.079 0.097 0.157 1.069 0.079 0.185 0.121 1.071 0.030 0.052 0.051 1.003 0.012 0.005 0.001 1.012 0.013 0.014 0.039 1.012 0.013 0.014 0.039 1.012 0.013 0.014 0.039 1.002 0.002 0.016 0.011 1.088 0.159 0.068 0.146 1.377 0.377 0.448 0.555 | 1.156 1.299 1.070   | 1.56 1.299 1.070  | 1.56 1.299 1.070  | 1.156 1.299 1.070   | 1.661 1.839 1.966 2.069 2.012 1.613   1.213 0.409 0.323     | 1.56 1.299 1.070  | 1.56 1.299 1.070 1.661 1.839 1.966 2.069 2.012 1.613 1.656 1.280 0.213 0.409 0.323 0.376 0.460 0.412 0.424 0.389 0.435 0.299 0.266 0.328 0.220 0.283 0.326 0.471 0.441 0.520 0.404 0.424 0.212 0.302 0.962 3.846 3.430 4.606 5.010 5.558 6.164 5.587 4.724 4.907 4.446 0.005 0.003 0.011 0.029 0.184 0.101 0.147 0.135 0.060 0.147 0.135 0.127 0.079 0.097 0.157 0.179 0.161 0.217 0.151 0.147 0.249 0.177 0.699 0.079 0.185 0.121 0.148 0.124 0.176 0.124 0.107 0.137 0.324 0.071 0.030 0.052 0.051 0.043 0.020 0.072 0.021 0.019 0.030 0.045 0.012 0.013 0.014 0.039 0.094 0.113 0.072 0.086 0.172 0.216 0.188 0.012 0.003 0.016 0.039 0.094 0.113 0.072 0.086 0.172 0.216 0.188 0.002 0.002 0.016 0.011 0.008 0.009 0.010 0.008 0.006 0.009 0.003 0.088 0.159 0.068 0.555 0.751 0.598 0.734 0.605 0.575 0.812 0.948 | 1.56 1.299 1.070 1.661 1.839 1.966 2.069 2.012 1.613 1.656 1.280 1.002 1.213 0.409 0.323 1.326 0.471 0.441 0.520 0.404 0.424 0.212 0.302 0.262 1.962 3.846 3.430 1.606 5.010 5.558 6.164 5.587 4.724 4.907 4.446 3.580 1.005 0.003 0.011 1.0029 0.184 0.101 0.147 0.135 0.060 0.147 0.135 0.148 1.127 0.079 0.097 1.069 0.079 0.185 1.069 0.079 0.185 1.011 0.148 0.124 0.176 0.124 0.107 0.137 0.324 0.201 1.003 0.012 0.005 1.003 0.012 0.005 1.003 0.012 0.005 1.003 0.012 0.005 1.003 0.012 0.005 1.003 0.014 0.008 0.009 0.010 0.002 0.007 0.000 0.032 0.004 1.002 0.002 0.016 1.003 0.094 0.113 0.072 0.086 0.172 0.216 0.188 0.152 1.002 0.002 0.016 1.377 0.377 0.448 1.555 0.751 0.598 0.734 0.605 0.575 0.812 0.948 0.779 1.556 1.280 1.002 0.044 0.044 0.041 1.570 0.377 0.377 0.448 1.5661 1.839 1.966 2.069 2.012 1.613 1.656 1.280 1.002 1.002 0.004 0.044 0.041 1.570 0.377 0.377 0.448 1.661 1.839 1.966 2.069 2.012 1.613 1.656 1.280 1.002 1.002 0.007 0.000 0.003 0.008 0.006 0.009 0.003 0.008 0.008 0.006 0.009 0.003 0.008 0.006 0.009 0.003 0.008 0.006 0.009 0.003 0.008 0.006 0.009 0.003 0.008 0.006 0.009 0.004 0.044 0.041 | 1.56 1.299 1.070  |

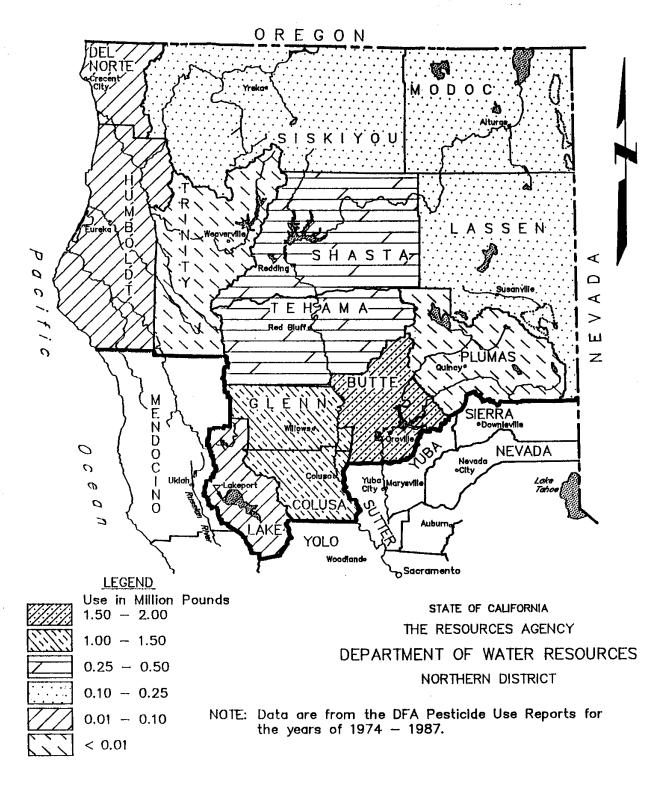
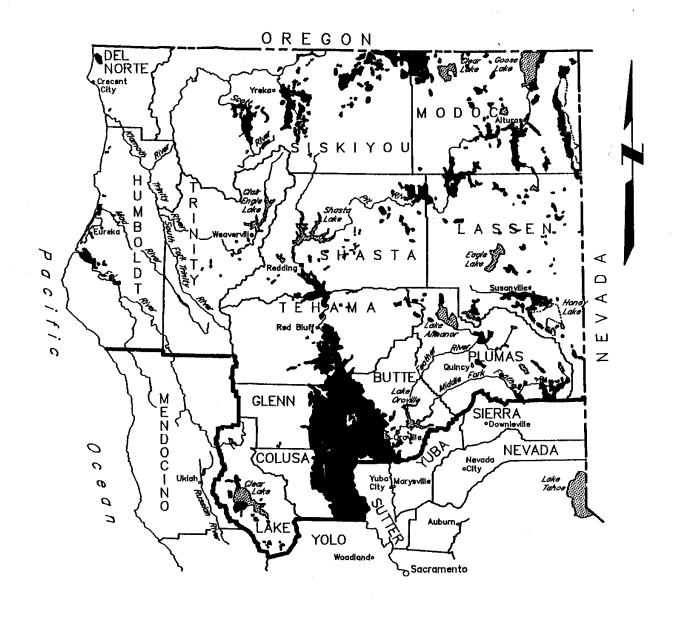


Figure 4. Average Yearly Pesticide Use



#### LEGEND

 Irrigated Land in the Northern District from Bulletin 160-87 (DWR 1987) STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

Figure 5. Irrigated Land

large number of fish kills were discovered and bad taste complaints were made by the residents of the City of Sacramento.

The problems of rice pesticides and the solutions to these problems are being adequately addressed by the rice pesticide program. Because of this monitoring, some potential problem causing pesticides were detected and their use has thus been restricted. More effective rice management practices have also been developed. The timber pesticides programs have also adequately addressed the use and monitoring of the pesticide 2,4–D. Revised BMP's and monitoring program activities and techniques have been recommended.

A routine pesticide monitoring program would enable the detection and control of pesticides throughout the Northern District before any major problems come into existence, such as toxic effects on fish, wildlife, or people. Monitoring would also allow the determination of correct use of pesticides and best management practices. A successful pesticide monitoring program must be based on the type, application, and mobility of pesticides. The monitoring program should be coordinated with other agencies and organizations.

Pesticide runoff potential has been studied by the State Water Resources Control Board (SWRCB, 1986b). The SWRCB screened pesticides in surface runoff based on: 1) method of application, 2) timing of application relative to the first major storm, and 3) selected physical and chemical properties. It was found that many pesticides had a runoff loss of about 1 to 2% of the applied amount. Molinate and thiobencarb runoff losses ranged from 9 to 10.8% of the applied amount.

Even though there is no definitive relationship between the pesticide concentration observed in fish tissue samples and the actual concentration in water (SWRCB, 1984b), data developed over the past 10 years have shown that the best method for monitoring toxic substances in surface waters is to analyze the tissues of resident aquatic organisms (SWRCB, 1988). Oftentimes, concentrations of pesticides in water are too low to be detected with traditional methods of analyses. Many pesticides are not water soluble, but can be associated with sediment or organic matter (SWRCB, 1984b). Aquatic organisms will often bioaccumulate pesticide residues to levels which may be many hundreds of times the levels found in water, therefore making detection more probable.

Using a non-toxic dye during pesticide application as was done in the timber pesticide program could help in the detection of pesticides in surface water in other monitoring programs. Water samples could be taken when the fluorometer indicates the presence of dye and therefore the likely presence of pesticides.

High analytical cost is one of the main reasons why surface waters are not being routinely monitored for pesticides. Pesticide residue in surface water occurs in the parts per billion range and tests to detect pesticide residue at these levels may cost around \$100 for each pesticide in a sample (Pace Laboratories, Inc., 1989).

Routine monitoring of surface waters for pesticides is needed (Peter Stoddard, DFA, pers. comm.). Right now there is no legal mandate for surface water monitoring like there is for groundwater (DFA Code Division 7, Chapter 2, Article 15) and air (DFA Code Division 7, Chapter 3, Article 1.5). Since cost for testing is the biggest problem, DFA is working on an enzyme-linked immunosorbent assay (ELISA) technique which uses antibodies to analyze pesticides. With the ELISA technique, 50 to 96 operations can be carried out simultaneously, which should greatly reduce the cost for analysis (Wie and Hammock, 1982). Antibodies for molinate and thiobencarb have already been developed. This new technique for testing of pesticides will hopefully soon be available to other State agencies.

Resolution No. 90–028 is an amendment of the July 1975 Water Quality Control Plan for the Sacramento River, Sacramento-San Joaquin Delta, and San Joaquin River Basins which updates the pesticide control program for surface waters (CVRWQCB, 1990). The CVRWQCB adopted this resolution on March 31, 1989, and the SWRCB has approved this edition. Water Quality Control Plans also exist for other basins. The goal of the Control Plans is to provide program actions to preserve and enhance water quality and protect beneficial uses. The pesticide control program sets limits on pesticide discharge concentrations in accordance with State and Federal regulations and also includes an implementation plan to meet these set limits. Performance goals and discharge limits have already been established for molinate and thiobencarb. The program calls for surface water monitoring to be used to evalutate effectiveness and help prioritize control efforts. This monitoring will consist primarily of chemical analysis and biotoxicity testing of major water bodies that receive irrigation return flow.

Surface water monitoring by the CVRWQCB for the pesticide control program is now limited to rice pesticides (Rudy Schnagl, CVRWQCB, pers. comm.). A baseline monitoring program has not been set up mainly due to lack of funds and one is not forseen in the near future. Monitoring by others is needed and encouraged. All monitoring data should be made available to the CVRWQCB so that it may be used to help meet the goals of the Water Quality Control Plan.

#### Conclusions and Recommendations

Routine pesticide monitoring of surface waters within the Northern District is not being done in an adequate manner. Most monitoring only occurs when a problem, such as a large fish kill, is discovered. The rice pesticide program was developed for just such a reason. In the TSMP, only a few stations are monitored each year for pesticides, and samples are probably not being collected at the time of peak pesticide use. Butte County, which has the highest average yearly pesticide use, has not been monitored for the TSMP except once at the Sacramento River near Hamilton City.

Detectable amounts of pesticides in surface waters are only present during the application season or just shortly thereafter. A non-toxic dye used in the pesticide application may help

pinpoint the optimal time to take water samples. Aquatic organisms are considered to be a better indicator of the environment because of their ability to bioaccumulate in their tissues many of the pesticides that are used. Sampling of aquatic organisms is not quite as time dependent as is the sampling of surface water. Higher concentrations of pesticides in aquatic organisms than in surface waters allow easier detection.

A good pesticide monitoring program should be a coordinated effort with other agencies and organizations. The selection of many of its monitoring sites should be based upon where the majority of pesticides are being applied, as these areas are where problems are most likely to exist. Monitoring should also take place during the time of peak pesticide use so that possible worst case situations can be discovered. The type and mobility of pesticides used and the application process also needs to be considered. Such a pesticide monitoring program should enable the detection of pesticide contamination before any serious problems arise. The implementation plan of the CVRWQCB's pesticide control program of the Water Quality Control Plan calls for monitoring and management practices to minimize or eliminate the amount of pesticide discharge and would be a good plan to follow. The CVRWQCB has not set up a baseline monitoring program and will rely on the monitoring data collected by others to help them meet the Plan's goals.

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## APPENDIX 1

DATA FROM RICE PESTICIDE PROGRAM (DFA 1989a, DFA 1989b, SWRCB 1984a)

## 1989 MONITORING DATA RICE HERBICIDE UPDATES DFA 1989a concentrations in water (ppb)

| STATION  | 4-21                 | 5-15                                       | 5-22                | 5-25   | Date<br>5-29                                  | month -<br>6-1                            | day<br>6-5                           | 6-8                             | 6-12                                       | 6-15   | 6-19  | 7-3                          |
|--|----------------------|--|---------------------|--|---|---|--------------------------------------|---------------------------------|--|--|---|------------------------------|
| 1  |                      |  |                     |  | M   | OLINATE                                   |                                      |                                 |  |  |   |                              |
| CBD1<br>CBD5<br>SS1<br>BS1<br>SRRUN4<br>SR1<br>SR2<br>SR3<br>SR4 | <1<br><1<br><1<br><1 | 14<br>40<br>1<br>7<br><1<br><1<br><1<br><1 | 36<br>49<br>5<br>20 | 40<br>51<br>12<br>23<br>1<br>4<br>1<br>1<br><1 | 14<br>19<br>14<br>26<br>3<br>6<br>2<br>2<br>1 | NA<br>60<br>23<br>39<br>6<br><1<br>4<br>4 | 51<br>36<br>30<br>37<br>5<br>22<br>3 | 38<br>33<br>22<br>43<br>55<br>4 | 25<br>28<br>24<br>30<br>4<br>33<br>33<br>3 | 22<br>23<br>23<br>25<br>25<br>22<br>22<br>23 | 17<br>15<br>16<br>13<br>1<br>DISC<br><1<br>DISC<br>DISC | 4<br>4<br>5<br>5<br><1<br><1 |
|  |                      |  |                     |  | BENSUL  | J'URON ME                                 | THYI.                                |                                 |  | •  |   |                              |
| cnot   |                      | <.5  | 0.9                 | 0.98   | 2.08  | 1.79                                      | 2.0                                  | 1.34                            | 1.63                                       | 0.82   |   |                              |
| CB05  <br>SS1  <br>BS1   |                      |  | <.5                 |  | <.5   | <.5                                       | 0.6                                  | 0.7                             | 0.6  | 0.54   |   |                              |
| SRRUN4  <br>SR1<br>SR2<br>SR3<br>GR4                             |                      |  | <.5                 |  | <.5   | <.5                                       | <.5                                  | <.5                             | <.5  | <.5  |   |                              |

| + | CBD1   | COLUSA BASIN DRAIN NEAR KNIGHTS LANDING IN YOLO CO.          |
|---|--------|--|
|   | CBD5   | COLUSA BASIN DRAIN AT HIGHWAY 20 IN COLUSA CO.               |
| 4 | 551    | SACRAMENTO SLOUGH AT DWR GAGE IN SUTTER CO.                  |
| 4 | 1151   | BUTTE SLOUGH AT HIGHWAY 20 IN SUTTER COUNTY                  |
| + | SRRUN4 | SACRAMENTO RIVER 3KM D/S CONFLUENCE CBD                      |
|   | SR1    | SACRAMENTO RIVER AT VILLAGE MARINA IN SACRAMENTO CO.         |
|   | SR2    | SACRAMENTO RIVER AT FREEPORT BRIDGE IN SACRAMENTO CO.        |
|   | SR3    | SACRAMENTO RIVER AT WALHUT GROVE BOAT DOCK IN SACRAMENTO CO. |
|   | CD A   | ENCHAMMED DIVER AT BIO UISTA MUNICIPAL DOCK IN SOLANO CO.    |

<sup>\*</sup> STATION WITHIN NORTHERN DISTRICT
+ STATION NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA
NA NOT AVAILABLE
DISC DISCONTINUED

Concentrations (ppb) of molinate (Ordram) detected at nine monitoring sites sampled in 1988.

| Sampling     |      |      |               | Hot. | Itoring Si   |              |      |     |      |
|--------------|------|------|---------------|------|--------------|--------------|------|-----|------|
| Dale<br>1725 | CBUI | cons | \$\$1<br>{1.0 | 651  | SARUNT       | \$#1<br>(1.0 | SRZ  | SR3 | ŚR   |
| 4/25         | 1.0  | 3.0  | (1.0          | (1.0 |              | (1.0         |      |     |      |
| 5/2          | 54   | 9.0  | <1.0          | 6.0  |              | (1.0         |      |     |      |
| 5/9          | 34   | 30   | 4.0           | 2.0  |              | <1.0         |      |     |      |
| 5/12         | 3/t  | 52   | 6.0           | 14   | <b>1</b> 1.0 | 3.0          | 3.0  | 3.0 | C1.0 |
| 5/16         | 62   | 69   | 7.0           | 23   | 6.0          | 5.0          | 4.0  | 3.0 | 2.0  |
| 5/19         | 60   | 76   | 30            | ųġ   | . 11         | 7.0          | 6.0  | 4.0 | 2.0  |
| 5/23         | 61   | 89   | 25            | 31   | 2.0          | 6.0          | 5.0  | 6.0 | 3.0  |
| 5/26         | 67   | 83   | 18            | 33   | 12           | 8.0          | 5.0  | 5.0 | 5.0  |
| 5/30         | 55   | 52   | 55            | 52   | . 12         | 8.0          | 7.0  | 1.0 | ή. τ |
| 6/5          | ባካ   | ΨØ   | 29            | 35   | 6.0          | 6.0          | 6.0  | 7.0 | 3.0  |
| 6/6          |      | 31   | SįI           | 33   | 8.0          | 7.0          | 7.0  | 1.0 | ň.(  |
| 6/9          | 26   | 21   | 54            | 45   | 6.0          | 6.0          | 5.0  | 5.0 | 5.0  |
| 6/13         | 18   | 17   | 50            | 30   |              | 1.0          | 4.0  |     |      |
| 6/20         | 12   | 9.0  | 11            | 14   |              | (1.0         | <1.0 |     |      |
| 6/27         | 7.0  | 5.0  | 6.0           | 7.0  |              | (1.0         | <1.0 | •   |      |

Concentrations (ppb) of mollinate (Ordram) detected at nine sites within the drainage area of the Column Basin Drain mampled in 1988,  $^{\rm L}$ 

| ար1 Լոբ |      | Honitoring Site ! |      |      |      |       |     |      |             |  |  |
|---------|------|-------------------|------|------|------|-------|-----|------|-------------|--|--|
| Date    | CROS | CHOG              | 05   | 115  | 07   | 58    | 09  | DIO  | <u>5</u> 11 |  |  |
| 5/19    | 61   | 91                | ~5B~ | 21   | 104" | -1i5" | 35  | -66- | -16-        |  |  |
| 5/23    | 75   | 88                | 66   | 58   | 305  | 21    | 21  | 46   | 118         |  |  |
| 5/26    | 62   | 68                | 311  | . 33 | ής   | 50    | 70  | 99   | 11.1        |  |  |
| 5/30    | 511  | ħΠ                | 37   | 18   | 21   | 61    | ЙO  | 66   | 21          |  |  |
| 6/2     | 54   | 38                | 30   | 15   | Ϊġ   | 15    | 211 | 101  | 18          |  |  |
| 6/9     | 26   | 19                | is   | 11   | 11   | á     | 10  | 111  | 16          |  |  |

- 1. Samples collected by the Department of fish and Game and analyzed by 101 Americas Inc.
- Colusa Basin Drain at Boads 109 and 99E near Enight's Landing in Yolo County.
  Colusa Basin brain at Highway 20 in Colusa County.
  Sacramento Slough at BMR gauge station in Sutter County.
  Butte Slough at Highway 20 in Sutter County.
  Sacramento Biver, 3 km downstream from confluence with Colusa Basin Drain.
  Sacramento Biver at Village Harina in Sacramento County.
  Sacramento Biver at Freeport Bridge in Sacramento County.
  Sacramento Biver at Valmut Grove Boat Dock in Sacramento County.
  Sacramento Biver at Rio Vista Hunicipal Book in Solano County. 2. **4** cm) t • cups

  - 4-851 4-851
  - 4-50m024 581
  - SH2
  - 583
  - Sacramento River at Rio Vista Hunicipal Dock in Sciano County.
  - CBH2 Colusa Basin Drain at County Line Road in Colusa and Yolo Counties.
  - Colusa Basin Drain at Haxwell Road in Colusa County. CEB6
  - 115 · bifi
  - 07
  - 99 ●
  - Colusa Basin Drain at Road 14 in Glenn County.
    Willow Creek at Road 61 in Glenn County.
    Honter Creek at Four Hite Road in Colusa County.
    Stone Corral Creek at Four Hite Road in Colusa County.
    Glenn-Colusa Irrigation District Drain at Two Hite Road in Colusa County.
    Lurilne Creek at Lurilne Road in Colusa County.
    Freshwater Creek at San Jose Road in Colusa County. • 117
  - 1110
  - ni i
- 3. Stanks in table indicate that no samples were taken.
- WITHIN NORTHERN DISTRICT
- NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

Concentrations (ppb) of thiobencarb (Bolero) detected at nine monitoring sites sampled in 1988.

| Sampl Eng |      | Honitoring Site |      |      |                |      |      |             |      |
|-----------|------|-----------------|------|------|----------------|------|------|-------------|------|
| Date      | CBOI | CDOS            | ŠŠĪ  | BSI  | SRRUH          | ŠŘÍ  | SRŽ  | <u>sn</u> j | 584  |
| りだる       | ₹0.5 | (0.5            | (0.5 | (0.5 | <del>- 1</del> | (0.5 | ₹0.5 |             |      |
| 5/?       | (0.5 | (0.5            | (0.5 | (0.5 |                | (0.5 | (0.5 |             |      |
| 5/12      | (0.5 | (0.5            | (0.5 | (0.5 | 0.5            | (0.5 | (0.5 | (0.5        | (0.5 |
| 5/16      | (0.5 | (0.5            | (0.5 | (0.5 | (0.5           | (0.5 | (0.5 | (0.5        | (0.5 |
| 5/19      | 0.6  | (0.5            | (0.5 | (0.5 | (0.5           | (0.5 | (0.5 | (0.5        | (0.5 |
| 5/83      | 1.4  | 0.6             | (0.5 | (0.5 | (0.5           | (0.5 | (0.5 | (0.5        | (0.5 |
| 5/26      | v.6  | cu.5            | (0.5 | (0.5 | (0.5           | (0.5 | <0.5 | (0.5        | (0.5 |
| 5/30      | 0.6  | (0.5            | (0.5 | (0.5 | (0.5           | (0.5 | (0.5 | ₹0.5        | (0.5 |
| 6/5       | 3.6  | (0.5            | (0.5 | (0.5 | (0.5           | (0.5 | (0.5 | (0.5        | (0.5 |
| 6/6       | 1.7  | (0.5            | (0.5 | (0.5 | .<0.5          | (0.5 | (0.5 | (0.5        | (0.5 |
| 6/9       | 3.3  | (0.5            | <0.5 | 0.5  | (0.5           | (0.5 | (0.5 | (0.5        | (0.5 |
| 6/13      | 5.8  | (0.5            | <0.5 | <0.5 |                | <0.5 | (0.5 |             |      |
| 6/50      | 4.5  | (0.5            | <0.5 | 1.0  |                | ₹0.5 | (0.5 |             |      |
| 6/27      | 1.5  | (n.5            | (0.5 | (0.5 |                | (0.5 | (0.5 |             |      |

Concentrations (ppb) of thiobencarb (Bolero) detected at nine sites within the drainage area of the Colusa Basin Dealn sampled in 1988.

| Samidling | Honitoring Site 2 |      |      |      |      |      |      |      |      |
|-----------|-------------------|------|------|------|------|------|------|------|------|
| Date      | CHD2.             | C006 | 115  | 116  | Di - | D8   | 59   | bio  | bii  |
| 5/19      | (0.5              | ₹8.5 | ₹0.5 | ₹0.5 | (0.5 | (0.5 | ₹0.5 | ₹0.5 | ₹0.5 |
| 5/23      | 0.6               | <0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 |
| 5/26      | <0.5              | <0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 |
| 5/30      | <0.5              | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | <0.5 | (0.5 | (0.5 |
| 6/5       | (0.5              | 0.6  | <0.5 | (0.5 | 1.6  | (0.5 | (0:5 | (0.5 | (0.5 |
| 6/9       | (0.5              | 1.0  | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 | (0.5 |

- 1. Samples collected by the Department of fish and Game and analyzed by Valent USA Corporation.
- Colusa Basin Brain at Boads 109 and 99t near Knight's Landing in Yolo County.
  Colusa Basin Brain at Highway 20 in Colusa County.
  Sacramento Slough at DWR gauge station in Sutter County.
  Butte Slough at Highway 20 in Sutter County.
  Sacramento Blyer, 3 km downstream from confluence with Colusa Basin Drain.
  Sacramento Blyer at Village Harina in Sacramento County.
  Sacramento Blyer at Walnut Grove Bost Bock in Sacramento County.
  Sacramento Blyer at Walnut Grove Bost Bock in Sacramento County.
  Sacramento Blyer at Walnut Grove Bost Bock in Sacramento County. 2.4 CB01 • CB05 CHP5
- † 551 | 851 | Shimmir

- SRI
- SRZ
- SRU Sacramento River at Rio Vista Hunicipal Dock in Solano County.
- 0895
- CBb6
- 96
- 117
- 100
- Colusa Basin Brain at County Line Road in Colusa and Yolo Counties.
  Colusa Basin Brain at Haxwell Road in Colusa County.
  Colusa Basin Brain at Road Willin Glenn County.
  Willow Creek at Road 61 in Glenn County.
  Hunter Creek at Four Hile Road in Colusa County.
  Stone Corral Creek at Four Hile Road in Colusa County.
  Glenn-Colusa Prigation District Brain at Two Hile Road in Colusa County.
  Lurline Creek at Lurline Road in Colusa County.
  Freshwater Creek at San Jose Road in Colusa County.
- 010 011 Freshwater Creek at San Jose Road in Colusa County.
- 3. Blanks in table indicate that no samples were taken.
  - WITHIN NORTHERN DISTRICT
- + NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

Concentrations (ppb) of molliste (Ordram) and thiohencarb (Holaro) in the Sociamento River at the intake to the City of Sacramento water treatment facility in 1988.

| Sampling    | Concentr | ation_(ppb)   | Sampling |          | Lon (ppb)   |
|-------------|----------|---|----------|----------|-------------|
| Date<br>5/j | molinato | thlobenearb   | Date     | molinate | thlobencarb |
| 5/3         | 70.10    | (0.10   | 5/28     | 3.6      | (0.10       |
| 5/5         | 0.22     | <0.10 ·   | 5/23     | 3.2      | 0.10.       |
| 5/6         | 0.11     | <0.10   | 5/30     | 3.4      | (O. 10      |
| 5/1         | ¢0.10    | <0.10   | 5/31     | 3.8      | (0.10       |
| 5/0         | <0.10    | <0.10   | 6/1      | 3.5      | 0.13        |
| 5/9         | cg. ta   | ₹0.10   | 6/2      | 4.1      | 0.13        |
| 5/10        | 1.6      | (0.10   | 6/3      | 4.0      | 0.21        |
| 5/11        | 1.2      | (O. 10  | 6/4      | 3.0      | 0.11        |
| 5/12        | 17.01    | cn. 10  | 6/5 '    | 3.7      | 0.13        |
| 5/1.1       | 0.91     | <0.10   | 6/6      | 3.0      | 0.14        |
| 5/14        | 1.1      | <0.10   | 6/1      | 3.4      | 0.15        |
| 5/15        | 1.5      | (O. 10  | 6/8      | 2.3      | 0.15        |
| 5/16        | F.Ö      | (0.10   | 6/9      | 2.0      | 0.13        |
| 5/17        | 2.11     | (0.10   | 6/10     | 2.3      | 0.15        |
| 5/10        | 4.5      | (0.10   | 6/11     | 2.0      | 0.15        |
| 5710        | 1.9      | (O. 10  | 6/12     | 1.7      | 0.13        |
| 5/20        | ๆ.ยี     | (0.10   | 6/13     | . 1.1    | 0. 12       |
| 5/21        | 9.7      | 10.10   | 6/19     | 1.2      | <0.10       |
| 5/22        | 1.9      | (0.10   | 6/15     | 1.1      | (0.10       |
| 5/23        | 2.6      | co. 10  | 6/16     | 0.1      | (0.10       |
| 5/21        | i.o      | (0.10   | 6/17     | 0.52     | (0.10       |
| 5/25        | 1.9      | <0.10   | 6/20     | 0.29     | (0.10       |
| 5/26        | 3.1      | (0.10   | 6/55     | 0.27     | (0.10       |
|             |          |   |          |          |             |
| 5/27        | 1.5      | <n. 10<="" td=""><td>6/24</td><td>0.20</td><td>&lt;0.10</td></n.> | 6/24     | 0.20     | <0.10       |

Samples coffeeted and analyzed by the City of Sacramento.

Concentrations (ppb) of bentazon (Basagran) during 1988 in the Sacramento filver at Sacramento at the intake to the water treatment facility and in water at the facility that had undergone all standard treatment steps.

| * Sampling   | Hon Ltor!    | ng Site! |  |
|--------------|--------------|----------|--|
| Date         | \$88<br>(0.5 | SAT      |  |
| <b>3</b> 724 | ₹0.5         | (0.5     |  |
| 6/3          | ₹0.5         | <0.5     |  |
| 6/10         | (0.5         | (0.5     |  |
| 6/17         | (0.5         | (0.5     |  |
| 6/24         | (0.5         | (0.5     |  |
| 7/1          | (0.5         | (0.5     |  |
| 8/25         | (0.5         | <0.5     |  |
| 8/28         | <0.5         | `<0.\$   |  |
| 8/31         | (0.5         | (0.5     |  |
| 9/3          | (0.5         | (0.5     |  |
| 9/1          | 0.53         | (0.5     |  |
| 9/5          | 0.53         | ₹0.5     |  |
| 9/6          | <0.5         | (0.5     |  |
| 970          | (0.5         | (0.5     |  |
| 9/11         | (0.5         | (0.5     |  |
| 9/14         | (0.5         | (0.5     |  |
| 9/17         | (0.5         | (0.5     |  |

- 1. Samples collected and analyzed by the City of Sacramento.
- SHH Sacramento liver at Sacramento at the intake to the municipal water treatment facility.
  - SRT Sacramento River water treatment facility in Sacramento where the treated water enters the distribution system.

Concentrations of carbaryt (Sevin) and carbofuran (Furmdan) in the Sacramento River at Sacramento at the Intake to the water trentment facility in 1988.

| Samp! Ing     | Concentr | ation (pph) |
|---------------|----------|-------------|
| ₫ŋ <u>ţ</u> e | carpatal | carboluran  |
| 5/1           | (0.5     | CJ.0        |
| 5/10          | (0.5     | <1.0        |
| 5/11          | <0.5     | <1.0        |

Samples collected and analyzed by the City of Sacramento.

Concentrations (ppb) of bentazon (Basagran) detected at three monitoring sites sampled in 1988,  $^{\rm 1}$ 

| Sampling | Ho   | nitoring S | lte ?        |
|----------|------|------------|--------------|
| Date     | CDDI | 231        | <u> 3ñ 1</u> |
| 5723     | ₹8.5 | (0.5       | ₹0.5         |
| 5/30     | 0.5  | <0.5       | (0.5         |
| 6/2      | 0.6  | 0.5        | (0.5         |
| 6/6      | 0.8  |            | ₹0.5         |
| 6/9      | 1.3  | 0.6        | (0.5         |
| 6/20     | 1.3  | · 0.9      | (0.5         |
| 6/23     | 2.1  | 1.2        | 0.5          |
| 6/27     | η. 1 | 2.3        | (0.5         |
| 6/30     | 3.7  | 2.0        | (0.5         |
| 7/4      | 5.5  | 2.6        | (0.5         |
| 7/11     | 5.3  | 2.0        | (0.5         |
| 7/18     | 3.3  | 2.5        | (0.5         |
| 7/25     | 2.7  | 1.6        | (0.5         |
| 8/1      | 2.1  | 2.0        | (0.5         |
| 8/0      | 2.1  | 3.0        | (0.5         |
| 0/15     | 1.5  | 2.1        | (0.5         |
| 8/22     | 2:1  | 1.8        | (0.5         |
| 8/25     | 2.1  | 2.8        | 0.6          |
| 8/29     | 1.7  | 2.0        | (0.5         |
| 9/1      | 2.3  | 2.1        | 0.6          |
| 9/5      | 2.1  | 2.2        |              |
| 9/8      | 1.8  |            | 0.6          |
| 9/12     | 2.4  | 1.8        | 0.6          |
| 9/15     |      | 1.7        | 0.8          |
| 9/19     | 1.7  | 1.5        | 0.6          |
| 9/26     | 1.3  | .1.2       | 0.5          |
| 3/20     | 0.9  | 1.0        | (0.5         |

2.5

- Samples collected by the Department of Fish and Game and enalyzed by Euseco California Analytical Laboratory.
- CBD 1
- Column Damin Drain at Roads 109 and 99E mear Enight's Landing in Yolo County. Sacramento Slough at DWR gauge station in Sutter County. Sacramento River at Village Harins in Sacramento County. 531 SHI

Concentrations (ppb) of propanti detected at two monitoring sites sampled in 1980.  $^{\rm 1}$ 

| Samp Jing | _Hon1tor1 | ng Site <sup>2</sup> |
|-----------|-----------|----------------------|
| Pate      | CBDI      | šñ i —               |
| 5/23      | ₹8.₹      | ₹8.5                 |
| 5/26      | (0.5      | (0.5                 |
| 5/30      | (0.5      | <0.5                 |
| 6/2       | 1.1       | ₹0.5                 |
| 6/6       | (0.5      | (0.5                 |
| 6/9       | (0.5      | ₹0.5                 |
| 6/13 '    | ₹0.5      | ⟨0.5                 |
| 6/16 ,    | ₹0.5      | (0.5                 |
| 6/20      | (0.5      | (0.5                 |
| 6/23      | (0.5      | (0.5                 |
| 9/6       | (0.5      | (0.5                 |
| 9/8       | (0.5      | (0.5                 |
| 9/12      | (0.5      | (0.5                 |
| 9/15      | (0.5      | (0.5                 |

- Samples collected by the Department of fish and Game and analyzed by Enseco California Analytical Laboratory.
- 2. CBD) Coluse Basin Drain at Roads 109 and 99E near Knight's Landing In Yolo County,
  - Sacramento River at Village Harina in Sacramento County.

Concentrations (ppb) of carbofuran (furadan) detected at three monitoring sites sampled in 1988.  $^{\rm L_1}$ 

|              | Me            | mitoring S | 16.4 |
|--------------|---------------|------------|------|
| Date         | căă i         | 35 i       | ŠŘI  |
| <b>1</b> 725 | <b>~6</b> .76 | ₹1.0       | (1.0 |
| 4/28         | 3.6           | <1.0       | (1.0 |
| 5/2          | 2.7           | 1.2        | (1.0 |
| 5/5          | 1.5           | 1.2        | (1.0 |
| 5/9          | 3,2           | 1.0        | (1.0 |
| 5/12         | 2.0           | <b>2.1</b> | <1.0 |
| 5/16         | 1.4           | 1.8        | <1.0 |
| 5/19         | 1.4           | 1.4        | (1.0 |
| 5/23         | <1.0          | 1.2        | (1.0 |
| 5/26*        | (1.0          | (1.0       | (1.0 |
| 5/30         | <1.0          | <1.0       | (1.0 |
| 6/2          | <1.0          | <1.0       | (1.0 |
| 6/6          | <1.0°         | <1.0       | <1.0 |
| 6/9          | ₹1.0          | <1.0       | <1.0 |

- Samples collected by the Department of Fish and Game and analyzed by FMC Corporation.
- Samples were also analyzed for the presence of 3-hydroxycarbofuran and 3-ketocarbofuran. Concentrations were below 1.0 ppb, the detection limit of each compound.
- j. CBD1 Colusa Basin Drain at Roads 109 and 99E near Enight's Colusa maste mean at house the Landing in Yolo County. Landing in Yolo County. Sacramento Slough at DVM gauge station in Sutter County. Sacramento River at Village Harina in Sacramento County.
- 4. Analyses performed by the California Department of Fish and Came.

Concentrations (ppb) of carbaryl detected at two monitoring sites sampled in 1988.

| Samp1 log         | Honitorin | e Site <sup>1</sup> |
|-------------------|-----------|---------------------|
| Date              | CODI      | šňi                 |
| 67 i <sup>-</sup> | ₹5.0      | 75.0                |
| 8/7               | (5.0      | •                   |
| 0/15              | (5.0      | (5.0                |
| 0/22              | (5.0      | (5.0                |
| 0/25              | (5.0 ·    | <5.0                |
| 0/29              | (5.0      | (5.0                |

- Samples collected by the bepartment of Fish and Game and analyzed by Enseco Catifornia Analytical Laboratory.
- 2. CHD1 Colusa Dasin Drain at Roads 109 and 99% near Knight's Landing In Ynio County.

  Sacramento River at Village Harina in Sacramento County.

## SUMMARY OF MOLINATE AND THIOBENCARB CONCENTRATIONS IN AGRICULTURAL DRAIN EFFLUENT DISCHARGING TO THE SACRAMENTO RIVER

## MOLTMATE

| AGRICULTURAL DRAIN 1/ (Station) | YEAR   | SURVEI LLANCE<br>PERIOD | OBSERVATIONS (n) | CONCENTRATION<br>RANGE (ug/1)         | DURATION OF<br>DETECTION [Date] | REFERENCE                    |
|---------------------------------|--------|-------------------------|------------------|---------------------------------------|---------------------------------|------------------------------|
| Colusa Baslu Drain              | 1983   | 4/27-7/11               | 17               | <1.0-211 2b/                          | 54 Days (5/18-7/11)             | Finlayson and fev. 1981b     |
|                                 | 1982   | 5/6-1/14                | 15               | <1.0-204 28/                          | 47 * (5/21-7/7)                 | Pintayoon and faw, 1991a     |
| ,                               | 1981   | 3/9-9/28                | . 29             | <1.0-310                              | 77 4 (4/27-7/13)                | Tanji et mi., 1982           |
|                                 | 1981   | 4/30-8/14               | 16               | 10-340                                | 74 * (4/30-7/14)                | Finlayson et al., 1982       |
|                                 | 1980   | 2/19-12/15              | 25 %             | <1.3-190                              | ND <u>3</u> /                   | Tanji et al., 1982           |
|                                 | 1980   | 6/10-9/8                | 0                | <1.0-60                               |                                 | Finlayson et al., 1982       |
| eclamation Slough 4/<br>R01500) | 1902   | 5/6-1/14                | ٠ 16             | <1.0-82 Za/                           | 47 * (5/21-7/7)                 | Finlayson and Lew, 1981s     |
|                                 | . 1981 | 4/30-N/14               | 16               | <1.0-187                              | 75 " (4/30-7/14)                | finlayson et al., 1982       |
| Sycamore Stoogh                 | 1983   | 6/7-6/21                | J                | 11-60                                 | /-                              | Cornacchia and Schnagi, 1981 |
|                                 | 1982   | 5/6-1/14                | 16               | <1.0-187 Za/                          | 49 " (5/25-7/14)                | Finiayson and Lew, 1983a     |
| Sacramento Slough               | 1903   | 1/27-7/11               | 17               | < 1-68 2b/                            | 46 " (5/26-7/11)                | Fintayson and Lew, 1983b     |
| Butte Stough ,                  | 1982   | 5/6-7/14                | 16               | <1.0-187 Za/                          | 47 * (5/21-7/7)                 | Finlayson and tew, 1983a     |
| Intomas Drath<br>(ND1000)       | 1983   | 6/7-6/21                | 3                | 14-90                                 | нр                              | Cornacchia and Schnagt, 1983 |
|                                 | 1782   | 5/6-7/14                | 16               | <1.0-141                              | 47 " (5/21-7/7)                 | Fintayson and Lev, 1983a     |
|                                 | 1976   | 5/18-7/20               | 9                | <20-210                               | 42 " (5/25-7/6)                 | Van de Pol and Plescia, 1978 |
| Aberty Cut 🋂                    | 1983   | 6/23                    | 2                | 59,84 6 b,c/                          | ND                              | Cornechia and Schnagi, 1991  |
| oe brata <sup>5</sup> /         | 1983   | 6/17<br>6/23            | 3                | 98<br>57,75,67 <u>6b.c.d</u> /        | ND<br>ND                        | :                            |
| THTOBENCARB                     | ****** |                         | * dart .         | · · · · · · · · · · · · · · · · · · · |                                 |                              |
| Colusa Manin Drain              | 1983   | 1/27-7/11               | 17               | <0.5-11.3 <sup>6</sup> /              | 43 days (5/31-7/11)             | Finlayson and Lew, 1983h     |
|                                 | 1982   | 5/6~7/14                | 16               | <1.0-57                               | 40 " (5/21-6/30)                | Finlayson and Lew, 1983a     |
|                                 | 1981   | 4/30-8/14               | 16               | <1.0-21                               | 49 " (5/12-6/30)                | Finlayson et 41., 1982       |
| golamation Slough<br>NOISOO)    | 1902   | 5/6-7/14                | 16               | <1.0-48                               | 47 * (5/21-1/7)                 | Finlayson and Lew, 1983a     |
|                                 | 1981   | 4/30-8/14               | 16               | <1.0-39                               | 28 " (5/18-6/15)                | Finlayson et al., 1982       |
| iyoamare Stough<br>IND108)      | 1982   | 5/6-7/14                | 16               | <1.0-110                              | 40 " (5/21-6/30)                | Finlayson and Lew, 1983a     |
| Sacramento Stough               | 1983   | 4/27-1/11               | 17               | <0.5-4.9 <u>6</u> /                   | 38 " .(6/3-7/11)                | Finlayson and Lev, 1983b     |
| litte Slough                    | 1902   | 5/6-7/14                | 16               | <1.0-10                               | 36 " (5/25-6/30)                | Finlayson and Lev, 1983a     |
| latomas Drain<br>(RD1000)       | 1983   | 6/17-6/21               | 1                | 2.3-14                                | ND 1/                           | Cornacchia and Schnagt, 1983 |
| Liberty Cut 5/                  | 1983   | 6/23                    | . ,              | 2.5, 3.0, <u>6a,b</u> /               | ND                              | •                            |
| Toe Brain 5/                    | 1983   | 6/17                    | 1                | 3.3                                   | ND                              | •                            |
|                                 |        | 6/23                    | 4                | 2.5, 2.7 68,C/                        | ND                              | •                            |
|                                 |        |                         |                  | 2.4, 3.0                              |                                 |                              |

 $<sup>{\</sup>cal M}$  Data nelected from stations located near the outfall to the Sacramento River.

<sup>2/</sup> Sblinate (a) split and (b) replicate analyses performed by Stauffer Chemical Company (STC): Refer to Appendix 2 for analytical methods.

<sup>3/</sup> HD: Not determined due to insufficient data.

<sup>4/</sup> Discharges to the Sacramento River via Sacramento Slough.

<sup>5/</sup> Discharges to the Horthern Delta at Prospect Slough.

Thiobencarb replicate analysis performed in park by (a) Chevron Chemical Company (CCC), (b) STC, (c) But, or (d) California Analytical.

## . MOLINATE AND THIOBENCARB CONCENTRATIONS DETECTED IN THE SACRAMENTO RIVER NEAR SACRAMENTO (CA)

| HOLINATE   |      |                        |                | •                             | ,                               |            |
|--|------|------------------------|----------------|-------------------------------|---------------------------------|------------|
| RIVER STATICH  | YEAR | SURVEILLANCE<br>PERIOD | OBSERVATIONS D | CONCENTRATION<br>RANGE (ug/1) | DURATION OF<br>DETECTION (DATE) | ref erence |
| Sectamento City Hater<br>Treatment Plant (Intake)    | 1983 | 4/11 = 7/15            | 39             | <0.3 - 2.0                    | 26 (6/8 - 7/4)                  | ь          |
| (.25 ml. d s American River)                         | 1982 | 5/19 - 7/12            | 16             | <1.5 - 13                     | 33 (5/38 ~ 6/30)                | •          |
| Raccamento City Water                                |      |                        |                |                               |                                 |            |
| Treatment Plant (Tap Water)                          | 1983 | 6/10 - 6/30            | 5              | <.1                           | Not detected                    | ь          |
|  | 1982 | 6/2 - 7/12             | 13 -           | <0.3                          | Not detected                    | •          |
| Village Mirina                                       |      |                        |                |                               |                                 |            |
| f .25 mi, u/s American River)                        | 1983 | 4/27 - 7/11            | 173/           | <1.0 - 20.0                   | 46 (5/11 - 6/27)                | đ          |
|  | 1982 | 5/6 - 1/14             | 163/           | <1.0 - 27                     | 47 (5/21 - 7/7)                 | e          |
| Crawlad Landing<br>[ .5 ml. u/s American River)      | 1903 | 5/30 - 7/15            | 22             | <0.3 ~ 4.0                    | 28 (6/6 - 7/4)                  | ь          |
| THEODERICARD   | ·    |                        |                |                               |                                 |            |
| Sacramento City Water Treatment Plant (Intake)       | 1983 | 4/11 - 7/15            | 40             | <0.1 - 0.38                   | 13 (6/13 - 6/26)                | ь          |
| 1.25 mt. d/s American River)                         | 1982 | 6/9 - 7/12             | 10             | <1.5 - 2.1                    | 12 (6/9 - 6/21)                 | •          |
| Sacramento City Water<br>Treatment Plant (Tap Water) | 1983 | 6/10 - 6/30            | \$             | <0.10                         | Not detected                    | ь          |
| ireacment trant (tab water)                          | 1982 | 6/2 - 7/12             | to             | <0.1                          | Not detected                    | •          |
| /lllage Mortna<br>  1.25 ml, u/a American River)     | 1983 | 4/27 - 7/11            | 174/           | <1.0                          | Not detected                    | đ          |
| o/a /weetican River)                                 | 1982 | 5/6 - 1/14             | 16 3           | <1.0 - 6.0                    | 25 (5/28 - 6/22)                | æ          |
| Crawlad Landing<br>(.5 ml. u/s American River)       | 1983 | 5/30 - 7/15            | 22             | <0.1 - 0.45                   | 29 (6/6 - 7/5)                  | b          |

<sup>1/</sup> Surface grab sample collected midchannel (by boat (8) or from shore (8).

<sup>2/</sup> a= Sacramento City, 1982 b= Sacramento City, 1983 c= Finlayson and Lew, 1983a d= Finlayson and Lew, 1983b

<sup>1/</sup> Split replicates to be analyzed by Stauffer Chemical Company.

<sup>1/</sup> Split replicates to be analyzed by Chevron Chemical Company.

# THIOBEICARB CONCENTATIONS FROM WATER SAMPLES COLLECTED AT 1982 MONITORING LOCATIONS

|         |      |      | - Ac      | nitoring | Loca | Elons |               |      |       |   |
|---------|------|------|-----------|----------|------|-------|---------------|------|-------|---|
| Date    | RS1  | CBD1 | RD108     | CBD5     | BS1  | SBP1  | FR1           | HD1  | SR1   |   |
| Hay 6   | <1   | <1   | <1        | <1       | <1   | <1    | <1            | <1·  | <1    |   |
| liay 11 | <1   | <1   | <b>(1</b> | <1       | <1   | <1    | <1            | . <1 | <1    |   |
| Hay 21  | 3    | 17   | 14        | 5        | <1   | <1    | <1            | <1   | <1    | • |
| May 25  | 7    | 13   | 35        | 170      | 1    | <1    | <1            | 2    | <1    |   |
| Hay 28  | - 16 | 40   | 29        | 25       | <1   | 2     | <1            | 21   | · 1   |   |
| June 1  | 18   | 57   | 83        | 33       | 7    | 7     | <1            | 53   | 3     |   |
| June 4  | 48   | 50 . | 110       | 35       | 10   | 7     | 6.            | 45   | 5     |   |
| June B  | 27   | 29 i | 5         | 10       | .6   | 14    | <1            | 66   | 6     |   |
| June 11 | 11   | 30   | 41        | 11       | . 5  | 9     | <1            | 99   | 5     |   |
| June 15 | 2.1  | 9    | 30        | ', 6     | 4    | 39    | : <1          | . 94 | 4     |   |
| June 18 | 12   | 13   | 3         | 65       | 5    | 5     | <1            | 68   | <1    |   |
| June 22 | 3    | 3    | 4         | 1        | 6    | 2     | · <1          | 25   | 1     |   |
| June 25 | 2    | 3    | 3         | 3        | 9    | . 1   | <1            | 10   | <1    |   |
| June 30 | 2    | 2    | 3 '       | 2        | 2    | <1    | <b>&lt;</b> 1 | 6    | <1    |   |
| July 7  | 1    | <1   | <1        | <1       | <1   | <1    | <1            | 5    | '; <1 |   |
| July 14 | (Ì   | <1   | <1        | ₹İ       | <1   | <1    | <1            | 2    | `<1   |   |

<sup>\*</sup> ug/l, or ppb

# STATE WATER RESOURCES CONTROL BOARD CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD 1983 RICE CHEMICAL MONITORING

## Analysis Results by Site

| Sacr<br>E | LOCATION   | LABORATORY 1/ | CONCENTRATE MOLINATE | ION (ug/1) <sup>2/</sup><br>THIOBENCARB |
|-----------|--|---------------|----------------------|---|
|           |  |               | <0.2                 | <0.2                                    |
|           | Sacramento River 0.5 mile upstream of<br>Reclamation District 108 drainage pumps | CAL<br>DFG    | <1.0                 | <1.0                                    |
|           |  | CVF           | <0.2                 | ₹0.2                                    |
|           | Sacramento River 1 mile upstream of Knight's Landing                             | DFG           | <1.0                 | <1.0                                    |
|           | a setter downstroom of   | CVP           | 1.9                  | 0.62                                    |
|           | Sacramento River 2 miles downstream of<br>Knight's Landing <sup>*</sup>          | DFG           | <1.0                 | <1.0                                    |
|           | Sacramento River 2 miles downstream of   | CAL           | 5.4                  | 0.65                                    |
|           | Feather River  | DFG           | 5.1                  | <1.0                                    |
|           | ntura ak Interntate 880 Bridge   | CVF           | 4.0                  | <0.2                                    |
|           | Sacramento River at Interstate 880 Bridge  | DFG           | <u>3.2</u>           | <u> </u>                                |
| :<br>5    | Sacramento River at Village Harina   | CVL           | 1.9                  | <1.0                                    |
|           |  | CVP           | 2.1                  | <1.0                                    |
| 9         | Þ  | CHEV          | ~~ <del>~</del>      | 0.0                                     |
| 10        |  | CAL ,         | 3.9                  | 0.25                                    |
| 13        |  | CVF           | 6.9                  | 1.4                                     |
| 15        | <del>.</del>   | CVF           | 4.3                  | 0.39                                    |
| 13        |  | ant.          | 3.8                  | <0.2                                    |
| 16        |  | CAL<br>DFG    | 2.7                  | <1.0                                    |
| /21       |  |               | 4.3                  | 0.45                                    |
|           |  | CVF           | <1                   | <1                                      |
| 26        | Sacramento River at Freeport   | H             | · <1                 | <1                                      |
|           |  | . 11          |                      | $\frac{3}{n}$                           |
|           |  | н .           |                      | 11                                      |
|           |  | •             | -                    |   |
|           | ,  | •             |                      |   |
|           |  |               | 1.1                  | <0.2                                    |
| /17       |  | CAL "         | 1.23                 |   |
|           |  |               | 41.0                 | <1.0                                    |
| /26       | Sacramento River at Walnut Grove   | CVF           | <1.0<br><1.0         | <1.0                                    |
| **        |  | CAL .         |                      | 3/                                      |
|           |  | <b>11</b> .   |                      | ,                                       |
|           |  |               | •                    |   |
|           |  | CNL           | 3.4                  | 0.75                                    |
| 6/17      | <i>*</i>   | H H           | 3.5                  | 0.41                                    |
|           |  | ₽∧D           | ND                   | ND                                      |

## STATE WATER RESOURCES CONTROL BOARD CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD 1983 RICE CHEMICAL MONITORING (CONT'D)

## Analysis Results by Site

| DATE        | LOCATION   |  | LABORATORY 1/                   | CONCENT             | RATION (ug/1) <sup>2/</sup><br>E THIOBENCARB   |
|-------------|--|--|---------------------------------|---------------------|--|
| 5/26        | Sacramento River at Rio Vis<br>(Highway 12 bridge)   | ta                                       | CAL<br>"                        | <1<br><1            | <1<br><1<br>3/                                 |
| ·/23        | Sacramento River near Rio V  | ista (Bouy 36)                           | CAL<br>STCHEM<br>CHEV<br>DFG    | 10<br>12<br><br>9.0 | <0.5<br>1.0<br>0.5<br><1.0                     |
| C<br>D<br>R | AL = California Analytical HEV = Chevron Chemical Co., FG = California Department AD = Radian Corporation, Sa TCHEM = Stauffer Chemical Co., | Richmond<br>of Fish and Game<br>Cramento |                                 | (EP)                | ene <5 ug/l<br>N 624 Method<br>I for analysis. |
|             | etection Limits in ug/1: CAL CHEV DEG RAD STCHEH* STCHEM**   | Molinate 0.5 1.0 1.0 0.1                 | Thlobencarb 0.5 0.5 1.0 1.0 0.1 |                     |  |

ND = Not detected at the specified detection limit.

<sup>\*</sup> For samples taken from Cache Slough at Vallejo Pipeline intake.

<sup>\*\*</sup> All other sites.

## REPORTED FISH KILLS INVOLVING RICE FIELD WATER. (CALIFORNIA DEPARTMENT OF FISH AND GAME)

|   |                                 |                | CERTAINTY OF | CAUSE       | Atthorne Cale                |   |
|---|---------------------------------|----------------|--------------|-------------|------------------------------|---|
| D CATTOU  | DATE                            | KHOKEF         | PRODABLE 1/  | POSSIBLE 1/ | APPROXIMATE<br>NUMBER        | SPECIES                                   |
| brain entering Butte Creek  | 5/15/65                         |                |              | X           | 1000<br>25                   | Catflah<br>Catflah                        |
| Midge cut and Column<br>Unathman Canal                              | 5/31/13                         |                |              | , <b>x</b>  | 1000<br>50<br>50<br>50       | Carp<br>Catfish<br>Crapple<br>Black basa  |
| lats fond near Fleasant<br>Grove                                    | 6/4/75                          |                | x            |             | 1272<br>400<br>42            | Carp<br>Catilsh<br>Bluegili               |
| Coluga County near Gildley  | 5/24/76                         |                | <b>x</b> .   |             | 1-50                         | Catfish                                   |
| Dutte Greek and its<br>fillustaries north of<br>Gridle, Column Her. | 6,18,76                         |                |              | ×           | 1000+<br>500+<br>100+<br>100 | Catp<br>Catlish<br>Bass<br>Sunfieh        |
| Muthe Creek   | 6/10/77                         |                |              | <b>x</b>    | 1000<br>50                   | Carp<br>Catlinh                           |
| Colura Marin Drain and<br>Regimention Stough                        | fote Hay-<br>Carly June<br>1900 | <b>x</b><br>:/ |              |             | 30,000                       | Carp (>75%)                               |
| # December 1997   | late Mays<br>earlý June<br>1981 | <b>x</b><br>1/ |              |             | 10,000                       | Caep (>751)                               |
| Colors Bario train and<br>Sitter Dypans                             | Ently<br>June/<br>1987          | <b>X</b>       |              |             | 13,000 \$ ;                  | Carp<br>CatElsh                           |
| Januson Lake, 15 mile<br>east of Larillin<br>(2007) Canal           | 6/4/83                          |                | , <b>x</b>   |             | 1,000<br>500<br>200<br>250   | Carte<br>Catfish<br>Black Lass<br>Crapple |
| Columa Basin twain  | Barly<br>June/<br>1983          | ×              |              |             | 7,000                        | Corp                                      |

<sup>1965-1986</sup> fish bill compositions; Pintayaon et al., 1982 and 1983a-b.

Counce known to be Helinate trice herbicide) from gas chromatographic (thermionic specific) analysis of the TIPEug and water.

1 Frobably caused by rice field water but specific compound not identified or proven by laboratory analysis.

<sup>47</sup> loselbl, caused by rice field water but no actual determination.

trium linlayson, personal communication.

## APPENDIX 2

SUMMARY OF TSMP DATA 1978 - 1987 ORGANIC CHEMICAL MONITORING WITHIN THE NORTHERN DISTRICT (SWRCB, 1984b, 1985, 1986a, 1987)

Note: 1986 summary data does not contain monitoring for pentachloraphenol(PCP) or tetrachloraphenol(TCP). 1987 summary data does not contain monitoring for TCP.

1978 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION   | SIATIO                                  | N NAME  |   |   | MIMON  |  | TISSUE<br>TYPE   | SAMPLE<br>DATE                               |  | ATRAZINE   | BENEF  | IN  | CARB   | ARYL  | CARN<br>PHEN<br>THIC   | Ю           | CDEC  | CHLO'<br>BENS |   |    |
|---|---|---|---|---|--|--|--|--|--|--|--|---|--|---|--|-------------|---|---------------|---|----|
| 105.11.08   | KLAHATH                                 | R / KLAM  | GLEN  | FR  | ESHVATER   | MUSSEL   | WHOLE  | 78-07-2                                      | 5 -5   | N  | .5   |   |  | 00  |  |             | - 15  | ٠١            |   |    |
| 105.11.08   | KI. AMA TIF                             | R / KLAM  | GLEN  | 5t  | CKER   |  | FLESH  | 78-07-2                                      | 5 -5   | N  | -5   |   |  | 00  |  | • •         | · 15  | • 1           |   |    |
| 105.11.08   |   |   |   | SC  | ULPIN  |  |  | 78-07-2                                      |  | H  | .5   |   |  | 00  |  |             | - 15  | ٠ ١           |   |    |
| 106.12.03   |   |   |   |   | CKER   |  |  | 78 - 07 - 2                                  |  | н  | -5   |   |  | 00  |  |             | - 15  | -1            |   |    |
| 106.12.03   | TRINLTY                                 | R / WILL  | OW CK   | SC  | ULPIN  |  | FLESH  | 78-07-2                                      |  | N  | - 5  |   |  | 00  |  |             | • 15  | • !           | -   |    |
| 111.12.01   |   |   |   | FR  | ESIIVATER  | MUSSEL   | MIOLE  | 78-07-2                                      |  | H  | - 5  |   |  | 00  | -  | 20          | ·15   | • 1           | -   |    |
| 111.12.01   |   |   |   | 51  | CRAMENTO   | SUCKER   | FLESH  | 78-07-2                                      |  | H  | - 5  |   |  | 00  |  |             | - 15  | • !           |   |    |
| 111.12.01   |   |   |   | SC  | ULPIN  |  | FLESII   | 78-07-2                                      | 4 -5   | N  | - 5  |   |  | 500   |  |             | - 15  | -1            |   |    |
| 526.22.00   |   |   |   | C   | ODISFLY  | LARVAE   | WHOLE  | 78-08-2                                      |  | H  | -5   |   |  | 500   |  |             | - 15  | • !           | -   |    |
| 26.22.00  | HCCL OUD                                | R/SHASTA  | LAKE  |   | CRAMENTO   |  |  |  |  | N  | -5   |   |  | 500   |  |             | - 15  | • 1           |   |    |
| 526.22.00   | HCCLOUD                                 | R/SHASTA  | LAKE  | BI  | ROWN TROU  | T  | FLESH  | 78-08-2                                      | 21 -5  | H  | .5   |   |  | 500   | • ;  | 20          | - 15  | •             |   |    |
| STATION (   | ALPHA<br>CHLORDEI                       | CIS<br>NE CHLORD  |   | AMMA<br>ORDEN   | TRANS<br>E CHLORD  |  |  | RONEB CII                                    | LOR DĄ<br>RIFOS  | CTHAL D-D  | 000 t  | 000<br>P,P  | DDE<br>O,P   | DDE<br>P,P                                    | DDMS<br>P,P  | DDMU<br>P,P | 0.P   | 001<br>P,P    | TOTAL<br>TOD  |    |
| 05.11.08  | N                                       | - 5   |   | N   | -5   | D  |  | 50   | - 10   | -5 N   | - 10   | 5   | -10  | 5   | - 5  |             | - 10  |               | 10  |    |
| 05.11.08  | Ħ                                       | ٠5  |   | H   | -5   | Đ  |  | 50   | -10  | -5 N   |  |   | - 10   | -5  | -5   | -           | - 10  |               | Ď   |    |
| 05.11.08  | 14                                      | -5  |   | И   | -5   | D  |  |  | - 10   | -5 N   |  |   | -10  | ٠5  | -5   |             | - 10  |               | D   |    |
| 06.12.03  | H                                       | .5  |   | Ħ   | ٠5   | D  |  |  | - 10   | -5 N   | - 10   |   | -10  | - 5   | -5   |             | - 10  |               | D   |    |
| 06.12.03  | N                                       | -5  |   | N   | -5   | D  |  |  | -10  | -5 N   | -10  |   | - 10   | -5  | ٠5   | . 5         |   |               | D   |    |
| 11.12.01  | N                                       | .5  |   | R   | .5   | D  |  | 50 .   | · 10   | -5 N   | -10  | -   | -10  | • 5   | - 5  | -           | • 10  | -             | 0   |    |
| 11.12.01  | H                                       | -5  |   | N   | .5   | D  |  | 50   | - 10   | -5 N   | - 10   | -   | - 10   | -5  | -5   | _           | -10   |               | D   |    |
| 11.12.01  | N                                       | -5  |   | N   | • • • • • •  | D  | -  | 50   | - 10   | ·5 N   | - 10   |   | - 10   | I   | -5   | -           | -10   |               | .Z  |    |
| 26.22.00  | N                                       | -5  |   | H   | -5   | Ð  |  | 50   | - 10   | -5 N   | - 10   |   | -10  | -5  | ٠5   |             | - 10  |               | D   |    |
| 26.22.00  | N                                       | -5  |   | N   | ٠5   | D  | -  | 50   | - 10   | ·5 N   | - 10   | -   | - 10   | -5  | -5   |             | - 10  |               | Đ   |    |
| 26.22.00  | N                                       | -5  |   | N   | -5   | D  |  | 50   | - 10   | -5 N   | - 10   | . 1   | -10  | -5  | -5   | .1          | - 10  | 1 -5          | Ð   |    |
|   | DEE DIA                                 | ZINON DIC   | in o ii   | nicoto  | N DIELOP   |  |  |  |  |  |  |   |  | D 1 M   | ETUIN  |             | 11100   |               | HIDN  |    |
| STATION   |   |   | THION   |   | DI DIELDR  | IN DIPHI   | NAMID  | ENDO   | ENDO   | ENDO<br>11 SULFAI<br>SULFAI  | TOT.   | AL<br>O   | END  |   | ETHIO  | N FEI       | ION   | FEN           |   |    |
| STATION<br>105.11.08  | и .                                     | 125 ·   | THION   | -100  | ·5   |  | NAMID<br>500   | EHDO<br>SULFAN 1                             | ENDO<br>SULFAN   | ENDO<br>11 SULFAI<br>SULFAI  | TOT.   | AL<br>O<br>FAN  | ENDI   | 5 ,   | -60  | N FEI       | · 12  | FEN           |   |    |
| \$1ATION<br>105.11.08<br>105.11.08  | н .                                     | 125 -<br>125 -  | 10<br>10  | -100<br>-100  | -5<br>-5   | •(   | NAMID  | EHDO<br>SULFAN 1                             | ENDO<br>SULFAN<br>N<br>N   | ENDO<br>II SULFAI<br>SULFAI<br>N   | TOT. I END IE SUL D  | AL<br>O<br>FAN  | - 1:   | 5 , 5   | -60<br>-60   | N FEI       | 10N<br>- 12<br>- 12   | ) FEN         | 1   |    |
| STATION<br>105.11.08<br>105.11.08<br>105.11.08  | H .                                     | 125 -<br>125 -<br>125 -   | 10<br>10<br>10  | -100<br>-100<br>-100  | -5<br>-5<br>-5   | - (<br>- (   | 000<br>000<br>000  | ENDO<br>SULFAN 1                             | ENDO<br>SULFAN<br>N<br>N   | ENDO<br>11 SULFAI<br>SULFAI  | TOT. I END. IE SUL. D                                      | AL<br>O<br>FAN  | - 1:<br>- 1:<br>- 1:   | 5<br>5<br>5                                   | -60<br>-60<br>-60  | N FEI       | 10N<br>- 12<br>- 12<br>- 12   | FEN           | 1<br>1  |    |
| \$1ATTON<br>105.11.08<br>105.11.08<br>105.11.08<br>106.12.03  | й -<br>й -<br>й -                       | 125 -<br>125 -<br>125 -<br>125 -  | 10<br>10<br>10<br>10  | -100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5   | - (<br>- (<br>- (  | NAMID<br>500<br>500<br>500   | ENDO<br>SULFAN 1                             | ENDO<br>SULFAN<br>N<br>N<br>N  | ENDO<br>II SULFAI<br>SULFAI<br>N<br>N<br>N   | TOT. I END. IE SUL. D D D                                  | AL<br>O<br>FAN  | -15<br>-15<br>-15<br>-15                                       | 5 , <sup>′</sup><br>5<br>5                    | -60<br>-60<br>-60  | N FEI       | 10N<br>- 12<br>- 12<br>- 12<br>- 12                                       | FEN           | 1<br>1<br>1   |    |
| \$1ATION<br> 05.11.08<br> 05.11.08<br> 05.11.08<br> 06.12.03<br> 06.12.03   | N - R - N - N - N - N - N - N - N - N - | 125 -<br>125 -<br>125 -<br>125 -<br>125 -   | 10<br>10<br>10<br>10<br>10  | -100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5   | - (<br>- (<br>- (<br>- (   | NAMID<br>500<br>500<br>500<br>500                                  | -5<br>-5<br>-5<br>-5<br>-5                   | ENDO<br>SULFAN<br>N<br>N<br>N<br>N                                   | ENDO<br>ET SULFAT<br>SULFAT<br>N<br>N<br>N   | TOT.  I END.  IE SUL.  D  D  D                             | AL<br>O<br>FAN  | - 1:<br>- 1:<br>- 1:<br>- 1:                                   | 5 /<br>5<br>5<br>5<br>5                       | -60<br>-60<br>-60<br>-60   | N FEI       | 10H<br>- 12<br>- 12<br>- 12<br>- 12                                       | FEN           | 1<br>1<br>1<br>1  |    |
| \$1ATION<br> 05.11.08<br> 05.11.08<br> 05.11.08<br> 06.12.03<br> 06.12.03<br> 11.12.01  | И -<br>И -<br>И -<br>И -<br>И -         | 125 - | 10<br>10<br>10<br>10<br>10<br>10  | -100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5   | -4<br>-4<br>-4<br>-1<br>-1   | NAMID<br>500<br>500<br>500<br>500<br>500                           | -5<br>-5<br>-5<br>-5<br>-5<br>-5             | ENDO<br>SULFAN<br>N<br>N<br>N<br>N                                   | ENDO<br>ET SULFAI<br>SULFAI<br>N<br>N<br>N<br>N  | TOT. I END. IE SUL. D D D D D                              | AL<br>O<br>FAN  | - 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 17<br>- 17           | 5 /<br>5<br>5<br>5<br>5                       | -60<br>-60<br>-60<br>-60<br>-60                                    | N FE!       | 10H<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12                               | FEN           | 1   |    |
| \$1ATION<br>  05.11.08<br>  05.11.08<br>  105.11.08<br>  106.12.03<br>  106.12.03<br>  111.12.01  | N - H - H - H - H - H - H - H - H       | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10  | -100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5   | -4<br>-4<br>-1<br>-1<br>-1   | NAMID<br>500<br>500<br>500<br>500<br>500<br>500                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5             | ENDO<br>SULFAN<br>N<br>N<br>N<br>N<br>N<br>N                         | ENDO<br>11 SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N   | TOT. 4 END 1E SUL D D D D D D D D D                        | AL<br>O<br>FAN  | - 15<br>- 15<br>- 15<br>- 15<br>- 16<br>- 17<br>- 17<br>- 17   | 5 /<br>5 5<br>5 5<br>5 5                      | -60<br>-60<br>-60<br>-60<br>-60                                    | N FE!       | 10H<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12               | FEN           | 1<br>1<br>1<br>1<br>1<br>1                                    |    |
| STATION  105.11.08 105.11.08 105.11.08 106.12.03 111.12.01 111.12.01  | N - N - N - N - N - N -                 | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10                                    | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | ·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500               | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5       | ENDO<br>SULFAN<br>N<br>N<br>N<br>N<br>N<br>N<br>N                    | ENDO<br>11 SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N  | TOT.  I END  IE SUL  D  D  D  D  D  D  D  D  D  D  D  D    | AL<br>O<br>FAN  | -11: -11: -1: -1: -1: -1: -1: -1:                              | 5 /<br>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5    | -60<br>-60<br>-60<br>-60<br>-60<br>-60                             | N FEI       | 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12                | ) FEN         | 1<br>1<br>1<br>1<br>1<br>1                                    |    |
| 05.11.08<br>05.11.08<br>05.11.08<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>111.12.01  | N - N - N - N - N - N - N - N - N - N - | 125 - | FO 10 10 10 10 10 10 10 10 10 10 10 10 10                                       | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | ·5·5·5·5·5·5·5·5·5·5·5   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500        | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5 | ENDO<br>SULFAN<br>N<br>N<br>N<br>N<br>N<br>N<br>N                    | ENDO<br>II SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N   | TOT.  I END  IE SUL  D  D  D  D  D  D  D                   | AL<br>O<br>FAN  | -15<br>-15<br>-15<br>-16<br>-17<br>-17<br>-17<br>-17           | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5         | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60                      | N FEI       | 10N<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12       | ) FEN         | 1<br>1<br>4<br>4<br>4   |    |
| \$1ATTON<br>105.11.08<br>105.11.08<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>111.12.01<br>526.22.00   | H - H - H - H - H - H - H - H - H - H - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10                                    | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | ·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5·5   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500               | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5       | ENDO<br>SULFAN<br>N<br>N<br>N<br>N<br>N<br>N<br>N                    | ENDO<br>11 SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N  | TOT.  FE SUL  D  D  D  D  D  D  D  D  D  D                 | AL<br>O<br>FAN  | -11: -11: -1: -1: -1: -1: -1: -1:                              | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5         | -60<br>-60<br>-60<br>-60<br>-60<br>-60                             | N FEI       | 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12                | FEN           | 1<br>1<br>1<br>1<br>1<br>1                                    |    |
|   | H - H - H - H - H - H - H - H - H - H - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10            | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | · 5 · 5 · 5 · 5 · 5 · 5 · 5 · 5 · 5 · 5  | -(4<br>-(4<br>-(4<br>-(4<br>-(4<br>-(4<br>-(4<br>-(4<br>-(4<br>-(4 | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500        | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO<br>SULFAN<br>H<br>N<br>N<br>H<br>N<br>H<br>N                    | ENDO<br>E SULFA<br>SULFA<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N   | TOTAL ENDITE SUL.  DD DD DD DD DD DD DD DD DD DD DD DD DD  | AL O FAN D D D D                                      | -1:<br>-1:<br>-1:<br>-1:<br>-1:<br>-1:<br>-1:<br>-1:           | 5 / 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5       | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60               | N FEI       | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12         | FEN           | 4<br>4<br>4<br>4<br>4<br>4<br>4                               | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>111.12.01<br>526.22.00<br>526.22.00<br>STATION   | H - H - H - H - H - H - H - H - H - H - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10            | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500        | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN  N N N N N N N N N N CHEXA                               | ENDO<br>E SULFA<br>SULFA<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N   | TOTAL  | AL O FAN D D D D                                      | -1! -1! -1! -1! -1: -1: -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 | 5 / 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5       | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | N FEI       | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12         | FEN           | 1                       | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>06.12.03<br>11.12.01<br>11.12.01<br>11.12.01<br>526.22.00<br>526.22.00<br>51ATION   | N - N - N - N - N - N - N - N - N - N - | 125 - | 10 10 10 10 10 10 10 10 10 10 10 10 10 1  | - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>HCH<br>BETA | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7<br>-7 | - (<br>- (<br>- (<br>- (<br>- (<br>- (<br>- (<br>- (<br>- (<br>- ( | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN N N N N N N N N CHLORO                                   | ENDO<br>ET SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N | TOT.  I END  TE SUL  D  D  D  D  D  D  D  D  D  D  D  D  D | AL O FAN D D D D D D D                                | -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                        | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5         | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 10N<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12<br>12     | FEN           | I trof  | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>105.11.08<br>106.12.03<br>11.12.01<br>11.12.01<br>11.12.01<br>526.22.00<br>526.22.00<br>\$1ATION  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-  |  | 000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>00  | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SUL FAN N N N N N N N N CHLORO GENZENE                          | ENDO<br>EI SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N | TOTAL  | AL O FAN D D D D D D D D D D D D D D D D D D D        | -100 -100 -100 -100 -100 -100 -100 -100                        | 5 / 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5       | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-    | FEN           | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>11.12.01<br>111.12.01<br>111.12.01<br>526.22.00<br>526.22.00<br>SIATION<br>105.11.08<br>105.11.08<br>105.11.08  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN  N N N N N N N N CHLORO BENZENE                          | ENDO<br>EI SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N | TOTAL  | AL O FAN D D D D D D D D D D D D D D D D D D D        | -1! -1! -1! -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1             | 5 7<br>5 5<br>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-    | FEN           | -20<br>-20  | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>111.12.01<br>111.12.00<br>526.22.00<br>526.22.00<br>51ATION<br>105.11.08<br>105.11.08<br>105.11.08<br>106.12.03  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2   |  | 000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>00  | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN N N N N N N N H CHLORO BENZENE                           | ENDO<br>II SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>M<br>MALATHIC  | TOT 4 END D D D D D D D D D D D D D D D D D D              | AL O FAN D D D D D D D D D D D D D D D D D D D        | -11: -1: -1: -1: -1: -1: -1: -1: -1: -1:                       | 5 / 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5       | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | N FEI TH    | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-    | FEN           | -20<br>-20  | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>11.12.01<br>105.22.00<br>STATION<br>105.11.08<br>105.11.08<br>105.11.08<br>106.12.03<br>111.12.01 | N - N - N - N - N - N - N - N - N - N - | 125 - | 10 10 10 10 10 10 10 10 10 10 10 10 10 1  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SUL FAN N N N N N N N N N H EXA CHLORO BENZENE - 2 - 2 - 2      | ENDO<br>ET SULFA:<br>SULFA:<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N | TOT 4 END D D D D D D D D D D D D D D D D D D              | AL OF AN DD DD HIS HIGH                               | -1! -1! -1! -1! -1! -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1     | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5         | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | N FEI TH    | 12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-    | FEN           | -20<br>-20<br>-20   | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>105.11.08<br>106.12.03<br>11.12.01<br>111.12.01<br>111.12.01<br>126.22.00<br>1105.11.08<br>105.11.08<br>105.11.08<br>105.11.08  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2   |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SUL FAN  N N N N N N N N N N CHLORO BENZENE  - 2 - 2 - 2 - 2    | ENDO<br>E SULFA<br>SULFA<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N    | TOT 4 END D D D D D D D D D D D D D D D D D D              | AL DDD HINNH  | -111-11-11-11-11-11-11-11-11-11-11-11-1                        | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5         | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 10N<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12       | FEN           | - 20<br>- 20<br>- 20  | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>105.11.08<br>106.12.03<br>11.12.01<br>11.12.01<br>11.12.01<br>526.22.00<br>526.22.00<br>\$1ATION  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10 10 10 10 10 10 10 10 10 10 10 10 10 1  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   | 11EP1  | 300<br>300<br>300<br>300<br>300<br>300<br>300<br>300<br>300<br>300 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN  N N N N N N N N N CHLORO BENZENE  -2 -2 -2 -2 -2        | ENDO<br>E SULFA<br>SULFA<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N    | TOT TOTAL  | AL OF FAN DDD HION HINN HINN HINN HINN HINN HINN HINN | -11: 11: 11: 11: 11: 11: 11: 11: 11: 11:                       | 55555555555555555555555555555555555555        | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | H FEI TH    | 10N<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12       | FEN           | -20<br>-20<br>-20<br>-20<br>-20                               | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>105.11.08<br>106.12.03<br>11.12.01<br>111.12.01<br>111.12.01<br>126.22.00<br>1105.11.08<br>105.11.08<br>105.11.08<br>105.11.08  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>1 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2       |  | 000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>00  | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN N N N N N N N HEXA CHLORO BENZENE -2 -2 -2 -2 -2         | ENDO<br>ET SULFA:<br>SULFA:<br>N<br>N<br>N<br>N<br>N<br>MALATHIC   | TOT TOTAL  | AL DE DE HION   | -11: -11: -11: -11: -11: -11: -11: -11:                        | 55555555555555555555555555555555555555        | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 10N<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12 | FEN           | -20<br>-20<br>-20<br>-20<br>-20                               | EN |
| 05.11.08<br>05.11.08<br>05.11.08<br>05.11.08<br>06.12.03<br>11.12.01<br>11.12.01<br>11.12.01<br>126.22.00<br>526.22.00<br>SIATION<br>105.11.08<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01  | N - N - N - N - N - N - N - N - N - N - | 125 - | 10 10 10 10 10 10 10 10 10 10 10 10 10 1  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-100  | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2 |  | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -     | ENDO SULFAN  N N N N N N N N N HEXA CHLORO BENZENE -2 -2 -2 -2 -2 -2 | ENDO<br>ET SULFAI<br>SULFAI<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>N | TOT TOTAL  | AL DDD HIGH HHHHHHHHHHHHHHHHHHHHHHHHHHHHHH            | -11:-11:-11:-11:-11:-11:-11:-11:-11:-11                        | 55555555555555555555555555555555555555        | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | TH TH       | 10N<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12 | FEN           | -20<br>-20<br>-20<br>-20<br>-20<br>-20                        | EN |

W = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

1978 (continued)

| STATION   | CIS<br>NONACHLOR | TRANS<br>NONACHLOR |       | ORGANO<br>ARSENICAL | OXYCI<br>.s | ILORDANE | PARATHION<br>ETHYL | PARATHION<br>METHYL | PC8<br>1242 | PCB<br>1248 | PC8<br>1254 | PC8<br>1260 | TOTAL<br>PCB | PCNB | PENIA<br>CHLOROPI | HENOL                   |
|-----------|------------------|--------------------|-------|---------------------|-------------|----------|--------------------|---------------------|-------------|-------------|-------------|-------------|--------------|------|-------------------|-------------------------|
| 05.11.08  | N                | -5                 | N     | N                   |             | -5       | -25                | -25                 | N           | N           | H           | N           | H            | -5   | H                 |                         |
| 05.11.08  | Ň                | ٠5                 | N     | Ä                   |             | - 5      | - 25               | - 25                | N           | Ħ           | Ħ           | H           | H            | -5   | N                 |                         |
| 05.11.08  | N                | ٠,5                | n     | Ĥ                   |             | -5       | - 25               | -25                 | N           | Ħ           | N           | H           | M            | - 5  | H                 |                         |
| 06.12.03  | N                | -5                 | H     | ĸ                   |             | .5       | - 25               | - 25                | Ħ           | N           | N           | H           | K            | .5   | W                 |                         |
| 06.12.03  | H                | -5                 | N     | N                   |             | -5       | - 25               | - 25                | H           | Ħ           | H           | H           | N            | -5   | N                 |                         |
| 11.12.01  | N                | -5                 | N     | N                   |             | -5       | · 25               | - 25                | N           | N           | H           | W           | N            | -5   | W                 | •                       |
| 11.12.01  | H                | ٠š.                | ĸ     | N                   |             | .5       | - 25               | - 25                | . M         | H           | H           | M           | N            | -5   | N                 |                         |
| 11.12.01  | Ñ                | -5                 | Ň     | N                   |             | .5       | - 25               | - 25                | N           | H           | Ħ           | N           | N            | ٠5   | N                 |                         |
| 26.22.00  | <br>N            | -5                 |       | •                   |             | -5       | -25                | -25                 | N           | Ħ           | N           | N           | Ħ            | -5   | N                 |                         |
| 26.22.00  |                  | -                  | N     | W                   |             |          |                    | - 25                | Ñ           | H           | H           | N           | N            | -5   | Ħ                 |                         |
|           | N                | -5                 | N     | N                   |             | -5       | - 25               |                     | Ä           | N           | N           | N           | N            | -5   | M                 |                         |
| 26.22.00  | N                | -5                 | N     | N                   |             | •5       | - 25               | -25                 | . "         | -           | "           |             |              |      |                   |                         |
| STATION   | PERTHANE         | PHENKAPT           | ON PH | IORATE PR           | DNAMIDE     | RONNEL   | SIMAZINE           | STROBANI            | tct         | E 161       | RAD I F     | ON          | TOXAPHE      | NE   |                   | CS >5PPB<br>ETHYL ETHER |
| 05.11.08  | -500             | -50                |       | 100                 | N           | -5       | N N                | - 200               | H           |             | -50         |             | -400         |      |                   | N .                     |
| 05.11.08  | -500             | -50                |       | 100                 | N           | -5       | N                  | -200                | H           |             | -50         |             | -400         |      | 1                 | N                       |
| 05.11.08  | -500             | .50                |       | 100                 | N           | . 5      | N                  | -200                | N           |             | -50         |             | -400         |      | 1                 | M                       |
| 06.12.03  | -500             | -50                |       | 100                 | N           | . 5      | N                  | - 500               | N           |             | -50         |             | -400         |      | ı                 | N                       |
| 06.12.03  | -500             | .50                |       | 100                 | N           | - 5      | N                  | - 200               | N           |             | -50         |             | -400         |      | 1                 | N                       |
| 11.12.01  | -500             | -50                |       | 100                 | N           | - 5      | Ħ                  | - 200               | H           |             | -50         |             | -400         |      | 1                 | H                       |
| 11.12.01  | -500             | .50                |       | 100                 | N           | -5       | N                  | -200                | N           |             | -50         |             | -400         |      |                   | Ħ                       |
| 11.12.01  | -500             | -50                |       | 100                 | N           | -5       | N .                | - 200               | N           |             | -50         |             | ~ 400        |      | 1                 | H                       |
| 526.22.00 | - 500            | -50                |       | - 100               | H           | .5       | H                  | - 200               | N           |             | -50         |             | -400         |      | 40                | H                       |
| 26.22.00  |                  | ·50                |       | - 100               | N           | - 5      | N                  | - 200               | N           |             | -50         |             | -400         |      |                   | N                       |
| 526.22.00 |                  | -50                |       | - 100               | W           | -5       | N                  | - 200               | · N         |             | -50         |             | -400         |      |                   | H                       |
|           | # 11             | AKS >5PPB          | F     | # PEAKS >5          | DDR 2       | 2,4.0    | 2,4·D              | 2.4                 | - D         |             | 2.          | 4 · D       |              |      | TETRA             | DICHLORO                |
| STATION   |                  | ETHYL              | :     | a 15% ETHY<br>ETHER |             |          | ISOBUTYL E         |                     |             | ESTER       |             |             | PYL ESI      | ER   | CHLORO<br>PHENOL  | BENZO<br>PHENONE P,     |
| 105.11.08 |                  | N                  |       | N                   |             | N        | -25                | 0                   |             | 200         |             |             | ·50          |      | N                 | N                       |
| 105.11.08 |                  | Ň                  |       | Ü                   |             | Ħ        | - 25               | 0                   | ٠.          | 200         |             |             | •50          |      | N                 | N                       |
| 105.11.08 |                  | N                  |       | AP .                |             | Ä        | - 25               |                     | •;          | 200         |             |             | -50          |      | H                 | N                       |
| 106.12.03 |                  | n                  | ı     | , ,                 |             | N        | . 25               |                     |             | 200         |             |             | -50          |      | N                 | H                       |
| 106.12.03 |                  | ii                 |       | ü                   |             | N        | - 25               |                     |             | 200         |             |             | -50          |      | H                 | N                       |
| 111.12.01 |                  | ii                 |       | ü                   |             | Ñ        | · 25               |                     | - 3         | 200         |             |             | -50          |      | N                 | N                       |
| 111.12.0  |                  | ű                  |       | w                   |             | Ñ        | - 25               |                     |             | 200         |             |             | -50          |      | Ħ                 | H                       |
| 111.12.0  |                  | u                  |       | 10                  |             | N        | - 25               |                     |             | 200         |             |             | -50          |      | N                 | N                       |
| 526.22.0  |                  | 11                 |       | Ü                   |             | N        | -25                |                     |             | 200         |             |             | -50          |      | N                 | N                       |
| 526.22.0  |                  | ••                 |       | N                   |             | N        | - 25               |                     | _           | 200         |             |             | -50          |      | N                 | И                       |
| 340.24.U  | ,                | И                  |       | N                   |             | 74       | - 25               |                     |             | 200         |             |             | -50          |      | N                 | N                       |

N = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

1979 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION  | STATIC   | ON HAME   |  |   | COMMON<br>NAME   |  | TISSUE<br>TYPE                          | SAMPLI<br>DATE  | E  | IN ATE  | RAZINI                                  | E BE                     | NEFIN   | CARB/   | P   | ARBO<br>HENO<br>HIONI  |  | C CH<br><b>BE</b>               | LOR<br>NSIDE   |
|--|--|---|--|---|--|--|---|---|--|---------|---|--------------------------|---|---|---|--|--|---------------------------------|--|
| 105.11.08  | KLAHATI  | 1 R / KL  | AM GLEN  |   | FRESHWATE  | R MUSSEL   |   |   |  |         | H                                       |                          | -5  | N   |   | - 20   | - 15   |                                 | - 10   |
| 105.11.08  |  |   |  |   | SCULPIN  |  |   | 79-08-  |  |         | N                                       |                          | .5  | N   |   | -50  | - 15   |                                 | -10  |
| 106.12.03  |  |   |  |   |  | R MUSSEL   |   |   |  |         | N                                       |                          | ٠5  | N   |   | - 50   | - 15   |                                 | -10  |
| 106.12.03  | TRINETY  | R / W   | ILLOW CK   |   | RAINBOW 1  |  |   | 79-08-  |  |         | N                                       |                          | - 5   | N   |   | - 20   | - 15   |                                 | - 10   |
| 111.12.01  | EEL R /  | SCOT 1/   | ١  |   | FRESHWATE  | R HUSSEL   | MHOFE                                   | 79-08-  | 27 -5  |         | H                                       |                          | -5  | H   |   | - 20   | - 13   |                                 | -10  |
| 11.12.01   | EEL R /  | SCOTIA  | ١  |   | SCULPIN  |  | FLESH                                   | 79-08-  | 27 -5  |         | N                                       |                          | • 5   | M   |   | .50  | - 15   | 5                               | - 10   |
| 526.22.00  | MCCLOU   | R/SHAS  | STA LAKE   |   | BROWN TRO  | UT   | FLESR                                   | 79-08-  | 23 -5  |         | H                                       |                          | -5  | H   |   | - 20   | -13  | 5                               | - 10   |
| STATION  | ALPHA  |   | CIS<br>DROANE C  | GAMMA   | TRANS  | TOTAL  | CHLORO                                  |   | OR DAI   | CTHAL   | D-D                                     | DDD<br>0,P               | DDD 0   | DE DO   | E DOM   | S DDMI   | J DD1<br>0,P   | 001<br>P,P                      | 101AL<br>DD1   |
|  |  |   |  |   | .5   | D  | -50                                     |   | 10   | · 10    | N                                       | -5                       | -5  | . 5 -   | 5 -5  | -5   | - 5  | -5                              | D  |
| 05.11.08<br>05.11.08   | H  |   | ·5<br>·5   | N   | .5   | 0  | -50                                     |   |  | - 10    | N                                       | -5                       |   |   | 5 -5  | - 5  | -5   | -5                              | Ð  |
| 06.12.03   | N<br>N   |   | · 5  | N   | .5   | Ð  | -50                                     |   | , -  | -10 .   | N                                       | -5                       |   |   | 5 -5  | - 5  | -5   | - 5                             | D  |
| 06.12.03   | N<br>H   |   | · 5  | N<br>19   | .5<br>.5   | บ<br>D   | -50                                     |   |  | -10     | N                                       | ٠ś                       |   |   | 5 -5  |  | - 5  | -5                              | D  |
|  |  |   |  | •   | -5   | b  | -50                                     |   |  | - 10    | Ň                                       | . 5                      |   |   | 5 -5  |  | -5   | -5                              | Ð  |
| 111.12.01  | H  |   | .5   | H   |  | -  |   |   |  | -10     | ×                                       | -5                       | -   | -   | 5 -5  | -  | 5  | . 5                             | D  |
| 111.12.01  | N  |   | ·5   | N   | -5   | D  | -50                                     |   |  |         |   | -                        | -   | -   |   | -  | _  | . 5                             |  |
| 26,22.00   | Ħ  |   | -5   | N   | -5   | D  | -50                                     | -   | 10   | - 10    | N                                       | -5                       | .,  |   | -   | , .,   | -,   |                                 |  |
| STATION  | DEF DI   | AZINON  | D I CHLO   |   | OL DIELDR  | IN DIPHEN  | AMID EN                                 | IDÓ<br>ILFAN E  | ENDO<br>SULFAN   | 11 5    | NDO<br>ULFAN<br>ULFAT                   | EN                       | 00  | ENDRII  | I ETHI  |  | HITRON   | O FEN                           | ITHEON   |
| 105.11.08  |  | - 125   | - 10   | - 100   |  | N  |   | -10   | N.   |         | N<br>N                                  |                          | D<br>D  | - 15<br>- 15  | -60<br>-60  |  | - 12<br>- 12   |                                 | N<br>N   |
| 105.11.08  | N  | - 125   |  |   | -5   | N  |   |   |  |         |   |                          |   |   |   |  |  |                                 |  |
| 103.11.00  | • ••   | . 153   | - 10   | - 100   |  | N  |   | - 10  | N.   |         | •••                                     |                          | -   |   |   | -  |  |                                 |  |
|  |  | -125  | - 10<br>- 10   | - 100   | -  | N  |   | - 10<br>- 10  | N  |         | N                                       |                          | D   | -,15  | -60   | D  | -12  |                                 | N  |
| 106.12.03  | H  |   |  |   | · ·5   |  |   |   | ,,   |         | •••                                     |                          | -   | -,15<br>-15   | -61<br>-61  | 0  | - 12<br>- 12   |                                 | N<br>N   |
| 106.12.03<br>106.12.03   | H<br>N   | - 125<br>- 125  | - 10<br>- 10   | - 100<br>- 100  | .5   | H  |   | - 10  | ,,   |         | N                                       |                          | D   | -,15  | -60   | 0  | -12  |                                 | H<br>H   |
| 106.12.03<br>106.12.03<br>111.12.01  | N<br>N   | - 125<br>- 125<br>- 125   | - 10<br>- 10<br>- 10   | - 100<br>- 100<br>- 100   | ·5<br>·5<br>· ·5   | H<br>N<br>N  |   | -10<br>-10<br>-10   | N  |         | N<br>N                                  |                          | D<br>D  | -,15<br>-15   | -61<br>-61  | 0<br>0<br>0  | - 12<br>- 12   |                                 | N<br>N<br>N  |
| 106.12.03<br>106.12.03<br>111.12.01  | N<br>N<br>N  | - 125<br>- 125  | - 10<br>- 10   | - 100<br>- 100  | · · · · · · · · · · · · · · · · · · ·  | N<br>N   |   | - 10<br>- 10  | N  |         | N<br>N                                  |                          | D<br>D<br>D   | -15<br>-15<br>-15   | -61<br>-61  | 0<br>0<br>0  | - 12<br>- 12<br>- 12   |                                 | H<br>H   |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01   | H<br>H<br>H<br>C H   | - 125<br>- 125<br>- 125<br>- 125  | - 10<br>- 10<br>- 10<br>- 10<br>- 10   | - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>HCH                                    | · · · · · · · · · · · · · · · · · · ·  | H<br>N<br>N<br>N<br>N                                    |   | -10<br>-10<br>-10<br>-10<br>-10<br>-10  | N<br>N<br>N  |         | N<br>N                                  | I MET                    | D<br>D<br>D<br>D                                    | - 15<br>- 15<br>- 15<br>- 15  | -61<br>-61<br>-61<br>-6-                          | 0<br>0<br>0<br>0   | -12<br>-12<br>-12<br>-12<br>-12  |                                 | N<br>N<br>N  |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00  | N<br>N<br>N<br>O N<br>FONOFO   | -125<br>-125<br>-125<br>-125<br>-125  | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EON HCH<br>ALPH/                                   | - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>HCH                                    | 1 -5<br>1 -5<br>1 -5<br>1 -5<br>1 -5   | H<br>N<br>N<br>N<br>HEPTAC                               | EI                                      | -10<br>-10<br>-10<br>-10<br>-10<br>-10  | N<br>N<br>N<br>N<br>N<br>HEXA<br>CHLORD  |         | N<br>N<br>N<br>N                        | I MET                    | D<br>D<br>D<br>D                                    | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH   | -61<br>-61<br>-61<br>-61<br>-61<br>-6             | 0<br>0<br>0<br>0<br>0<br>1REX  | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN  | IATE I                          | N<br>N<br>N<br>N<br>H<br>H<br>HITROFEN                                 |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION   | H<br>N<br>N<br>N<br>O H<br>FONOFO  | - 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125                 | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>ALPH/  | -100<br>-100<br>-100<br>-100<br>-100<br>HCH<br>A BETA                               | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>HCH HCH<br>DELTA GAM   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI                                | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE  | N<br>N<br>N<br>N<br>HEXA<br>CHLORO<br>BENZENE  |         | N<br>N<br>N<br>N<br>THION               | I MET                    | D<br>D<br>D<br>D<br>HION<br>N                       | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH   | -61<br>-61<br>-61<br>-61<br>-61<br>-6             | 0<br>0<br>0<br>0<br>1REX   | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN  |                                 | N<br>N<br>N<br>N<br>H<br>N1 TROFEN                                     |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08  | H N N N N N N N N N N N N N N N N N N N  | - 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>IS GUTHE              | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EDN HCH<br>ALPH/                            | -100<br>-100<br>-100<br>-100<br>-100<br>HCH<br>A BETA                               | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | HEPTAC   | EI<br>EI<br>;                           | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE  | HEXA<br>CHLORO<br>BENZENE  |         | N<br>N<br>N<br>N<br>THION               | I MET                    | D D D D D D D D D D D D D D D D D D D               | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH   | -61<br>-61<br>-61<br>-66<br>-6<br>-6              | 0<br>0<br>0<br>0<br>1REX   | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 14<br>- 18<br>- 18<br>- 18                         |                                 | N<br>N<br>N<br>N<br>H<br>H<br>1 TROFEN<br>- 20<br>- 20<br>- 20<br>- 20 |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08   | N N N N N N N N N N N N N N N N N N N  | - 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>IS GUTHE              | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>HCH<br>A BETA<br>- 10<br>- 10 | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>HCH HCH<br>DELTA GAM   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>;                           | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE<br>-5<br>-5  | HEXA<br>CHLORO<br>BENZENE  |         | H<br>N<br>N<br>H<br>THION               | I MET                    | D<br>D<br>D<br>D<br>HION<br>N                       | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50   | -61<br>-61<br>-61<br>-66<br>-6<br>-6              | 0<br>0<br>0<br>0<br>1REX  <br>-40<br>-40<br>-40                            | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN  | IATE                            | N<br>N<br>N<br>N<br>H<br>H<br>- 20<br>- 20<br>- 20<br>- 20<br>- 20     |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08<br>106.12.03  | N N N N N N N N N N N N N N N N N N N  | - 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125        | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EDN HCH<br>ALPH/                            | - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 10<br>- 1                   | -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -   | H HEPTAC<br>MA -5  | EI<br>EI<br>S                           | -10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE<br>-5<br>-5   | N<br>N<br>N<br>N<br>HEXA<br>CHLORO<br>BENZENE  |         | H<br>H<br>H<br>THION                    | I MET                    | D<br>D<br>D<br>D<br>HION<br>N<br>N                  | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH   | -61<br>-61<br>-61<br>-66<br>-6<br>-6              | 0<br>0<br>0<br>0<br>1REX   | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18 | IATE I                          | N N N H H H H H - 20 - 20 - 20 - 20 - 20 - 20                          |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08<br>106.12.03<br>111.12.01   | FONOFO  3 -10 3 -10 5 -10 5 -10 1 -10  | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE             | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | HEPTAC<br>MA -5  | CI<br>EI<br>;<br>;                      | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA<br>CHLORD<br>BENZENE<br>-5<br>-5<br>-5  |         | H<br>H<br>H<br>THION                    | I MET                    | D D D D D D D D D D D D D D D D D D D               | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50   | -61<br>-61<br>-64<br>-64<br>-6<br>-6              | 0<br>0<br>0<br>0<br>1REX  <br>-40<br>-40<br>-40                            | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN  | ATE                             | N<br>N<br>N<br>N<br>H<br>H<br>- 20<br>- 20<br>- 20<br>- 20<br>- 20     |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01  | FONOFO  3 -10 3 -10 5 -10 5 -10 1 -10 1 -10  | - 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>- 125<br>S GUTHE      | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>;<br>;                      | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE<br>-5<br>-5<br>-5   | HEXA<br>CHLORO<br>BENZENE<br>-5<br>-5<br>-5  |         | H<br>H<br>H<br>THION                    | I MET                    | D D D D D D D D D D D D D D D D D D D               | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50<br>-50  | -61<br>-61<br>-64<br>-64<br>-64<br>-64<br>-64     | 0<br>0<br>0<br>0<br>1REX  <br>-40<br>-40<br>-40<br>-40                     | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18<br>- 18 | IATE I                          | N N N H H H H H - 20 - 20 - 20 - 20 - 20 - 20                          |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00   | FONOFO | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>HCH<br>ALPHI<br>1 -2<br>-2<br>-2<br>-2<br>-2<br>-2 | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | HEPTAC<br>MA  -5 -5 -5 -5 -5 -5 -5 -5 -5                 | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HLOR<br>POXIDE<br>-5<br>-5<br>-5<br>-5<br>-5   | HEXA<br>CHLORD<br>BENZENE<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5  | ILLON I | N N N N N N N N N N N N N N N N N N N   | I MET DAT                | D D D D HION N N N N N N N N N N N N N N N N N N    | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50<br>-50<br>-50   | -61<br>-61<br>-61<br>-66<br>-66<br>-6<br>H<br>LOR | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40                              | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | T A                             | N N N N N N N N N N N N N N N N N N N                                  |
| 106.12.03<br>106.12.03<br>101.12.01<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>526.22.00<br>STATION  | FONOFC  3 - 10 3 - 10 5 - 10 5 - 10 1 - 10 0 - 10 CIS NOMACH   | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-6<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   | HEPTACIMA  N 1  HEPTACIMA  -5  -5  -5  -5  -5  OXYCHLORI | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA N HEXA CHLORD BENZENE -5 -5 -5 -5 -5 -5 -7 N PARATI   | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCR                      | D D D D RI HION N N N N N N N N N N N N N N N N N N | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50<br>-50<br>-50   | -61<br>-61<br>-61<br>-66<br>-66<br>-6<br>H<br>LOR | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-70                       | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | T A                             | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>SIATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00   | N<br>N<br>N<br>N<br>N<br>D H<br>FONOFC<br>3 - 10<br>3 - 10<br>5 - 10<br>1 - 10<br>0 - 10<br>C1S<br>NOMACH  | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | HEPTAC  HEPTAC  MA  -5  -5  -5  -5  -7  OXYCHLOR         | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA CHICORD BENZENE -5 -5 -5 -5 -5 -1 -5 -1 HETHYL  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCR 1248                 | D D D D HI HION N N N N PCB 1254                    | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50                                | -61<br>-61<br>-66<br>-66<br>-60<br>HLOR           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40                       | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | T A<br>DROPE                    | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>SIATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00   | N<br>N<br>N<br>N<br>N<br>D H<br>FONOFC<br>3 - 10<br>3 - 10<br>5 - 10<br>1 - 10<br>0 - 10<br>C1S<br>NOMACH  | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-7<br>-5<br>-7<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   | HEPTAC<br>MA  HEPTAC  MA  -5 -5 -5 -5 -5 -5 -10 -10      | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>EPTA<br>HILOR<br>POXIDE<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5 | HEXA CHLORD BENZENE -5 -5 -5 -5 -1 METHYN H  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCB<br>1248              | DD DD DD HI HION N N PCB 1254                       | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH<br>OXYCH<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50                                | -66-66-66-66-66-69-69-69-69-69-69-69-69-          | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-5                        | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | T A<br>DROPE                    | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>526.22.00<br>STATION  | N N N N N N N N N N N N N N N N N N N  | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-6<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA CHICORD BENZENE -5 -5 -5 -5 -5 -1 -5 -1 HETHYL  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCB 1248 -50 -50 -50     | DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD              | -15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-15<br>METH OXYCH<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50 | -66 -66 -66 -66 -66 -67 -67 -67 -67 -67           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-5<br>-5                  | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | T A<br>DROPE<br>N<br>N<br>N     | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00   | N N N N N N N N N N N N N N N N N N N  | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10 -10 -10 -10 -10 -10 -10 -10 -10 -10  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-6<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-3<br>-2<br>-3<br>-2<br>-3<br>-2<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3 | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA CHLORD BENZENE -5 -5 -5 -5 -1 METHYN H  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCB 1248 -50 -50 -50 -50 | DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD              | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-5               | -66 -66 -66 -66 -66 -66 -66 -66 -66 -66           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-5<br>-5<br>-5     | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | TA<br>OROPI<br>N<br>N<br>N      | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08<br>105.11.08<br>106.12.03 | FONOFC  3 - 10 3 - 10 3 - 10 5 - 10 5 - 10 6 - 10 C15 NOHACH N   | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                           | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-6<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA CHLORD BENZENE -5 -5 -5 -5 -1 METHYN H  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCB 1248 -50 -50 -50 -50 | DDDDDDDDDDDDDDDNHIHIONNNNNNNNNNNNNNNNNNN            | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-5               | -66 -66 -66 -66 -66 -66 -66 -66 -66 -66           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-5<br>-5<br>-5            | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | TA<br>DROPF<br>N<br>N<br>N      | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>105.11.08<br>105.11.08              | FONOFC  3 -10 3 -10 5 -10 5 -10 6 -10 C1S NONACH N N N N N N N N N N N N N N N N N N N   | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10 -10 -10 -10 -10 -10 -10 -10 -10 -10  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-6<br>-7<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-2<br>-3<br>-2<br>-3<br>-2<br>-3<br>-2<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3<br>-3 | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA CHLORD BENZENE -5 -5 -5 -5 -1 METHYN H  | ILLON I | N N N N N N N N N N N N N N N N N N N   | PCB 1248 -50 -50 -50 -50 | DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD              | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-5               | -66 -66 -66 -66 -66 -66 -66 -66 -66 -66           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-7<br>-5<br>-5<br>-5<br>-5<br>-5 | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | TA<br>DROPF<br>N<br>N<br>N<br>N | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |
| 106.12.03<br>106.12.03<br>106.12.03<br>111.12.01<br>111.12.01<br>526.22.00<br>STATION<br>105.11.08<br>106.12.03<br>106.12.03<br>111.12.01<br>526.22.01<br>STATION<br>105.11.08<br>105.11.08              | FONOFC  3 -10 3 -10 5 -10 5 -10 6 -10 C1S NONACH N N N N   | -125<br>-125<br>-125<br>-125<br>-125<br>-125<br>S GUTHE<br>N<br>N<br>N<br>N | -10 -10 -10 -10 -10 -10 -10 -10 -10 -10  | -100<br>-100<br>-100<br>-100<br>-100<br>-100<br>-10<br>-10<br>-1                    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | N N N N N N N N N N N N N N N N N N N                    | EI<br>EI<br>S<br>S<br>S<br>S<br>DANE PA | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10  | HEXA<br>N<br>N<br>N<br>HEXA<br>CHLORD<br>BENZENE<br>-5<br>-5<br>-5<br>-5<br>-5<br>-5<br>-1<br>HETHYN<br>N<br>N<br>N<br>N | ILLON I | N M N N N N N N N N N N N N N N N N N N | PCB 1248 -50 -50 -50 -50 | DDDDDDDDDDDDDDDNHIHIONNNNNNNNNNNNNNNNNNN            | -,15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-15<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-50<br>-5               | -66 -66 -66 -66 -66 -66 -66 -66 -66 -66           | -40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-40<br>-5<br>-5<br>-5            | - 12<br>- 12<br>- 12<br>- 12<br>- 12<br>- 12<br>MOLIN<br>N<br>N<br>N<br>N                                    | TA<br>DROPF<br>N<br>N<br>N      | N N N N H H H N 1 1 ROFEN - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2       |

N = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

1979 (continued)

| STATION   | PERTHANE | PHENKAPION        | PHORATE                     | PRONAMIDI | RONNE | L SIMAZINE            | STROBANE         | TCE    | TETRADIFON           | TOXAPHENE  |                           | KS >5PFB<br>ETHYL ETHER         |
|-----------|----------|-------------------|-----------------------------|-----------|-------|-----------------------|------------------|--------|----------------------|------------|---------------------------|---------------------------------|
| 105.11.08 | -500     | -50               | - 100                       | N N       | .5    | N -                   | -200             | N      | -50                  | - 250      |                           | N                               |
| 105.11.08 | -500     | -50               | - 100                       | N         | . 5   | N                     | - 200            | N      | -50                  | -250       |                           | M                               |
| 106.12.03 | -500     | -50               | - 100                       | N         | ٠5    | Ħ                     | - 200            | N      | -50                  | -250       |                           | N                               |
| 106.12.03 | -500     | -50               | - 100                       | N         | - 5   | N                     | -200             | N      | -50                  | ·250       |                           | M                               |
| 111.12.01 | -500     | - 50              | -100                        | N         | - 5   | N                     | - 200            | N      | -50                  | · 250      | ,                         | H                               |
| 111.12.01 | -500     | -50               | - 100                       | Ħ         | - 5   | N                     | -200             | N      | -50                  | -250       |                           | H                               |
| 526.22.00 | -500     | -50               | - 100                       | N         | -5    | N                     | - 200            | N      | -50                  | -250       |                           | H                               |
| STATION   |          | KS >5PPB<br>ETHYL | # PEAKS<br>@ 15% E<br>ETHER |           |       | Z,4-D<br>ISOBUTYL EST | 2,4-1<br>ER N-BU | TYL ES | 2,4-D<br>STER ISOPRO | OPYL ESTER | TETRA<br>CHLORO<br>PHEHOL | DICHLORO<br>BENZO<br>PHENONE P, |
| 05.11.08  |          | N                 |                             |           | N     | - 250                 |                  | - 200  | )                    | ·50        | N                         | N                               |
| 105.11.08 |          | N .               | j                           | !         | N     | -250                  |                  | - 200  | )                    | -50        | N                         | 11                              |
| 106.12.03 |          | N                 | i                           | }         | N     | -250                  |                  | - 500  | )                    | -50        | N                         | N                               |
| 106.12.03 |          | N                 | •                           | ı         | N     | - 250                 |                  | - 200  |                      | -50.       | H                         | R                               |
| 111.12.01 |          | H                 | j                           | f         | N     | -250                  |                  | - 200  |                      | · 50       | N                         | N<br>•-                         |
| 111.12.01 |          | N                 | ,                           | t         | H     | - 250                 |                  | -200   | )                    | ·50        | N                         | N                               |
| 526.22.00 |          | Н                 | i                           |           | U     | -250                  |                  | - 200  | )                    | -50        | N                         | N                               |

N = not analyzed. - = below indicated detection limit. D \* below detection limit (no limit indicated).

1980 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION  | SIAI  | HOH HA   | HE   |  |  | COMMON   |  | ISSUE<br>TYPE  | SAMPLE<br>DATE   | LDRIH    | ÀTRAZI   | INE BEN  | EFIN (  | ARBAR  | PI  | IRBO<br>IENO<br>I I ON I N   |              | BEN<br>BEN  | DR<br>SIDE   |
|--|---|--|--|--|--|--|--|--|--|----------|--|--|---|--|---|--|--------------|---|--|
| 103.11.12  | 51111   | H R/JE(  | DEDIAII S  | HITH RE  | DVOO   | O CRAYFIS  | 519  | VHOLE B  | 0 - 10 - 18  | .5       | H  | .,   | ·   | H  |   |  |              |   |  |
| 103.11.12  | SHII  | II R/JEI   | SEDIAN S   | METH RE  | OWO  |  | 1  |  |  | - 5      | H  |  |   | ĸ  |   | 50   | .5           | •   |  |
| 195.38.03  | REAM  | AIH R  | COPCO  | RESERVO  | PIC  | YELLOW   | PERCH  | FLESH 8  | 0 - 10 - 20  | -5       | N  | į.   |   | Ä  |   | 50<br>50   | ·5           |   |  |
| 519.10.07  | RECT.   | ANA I LON  | SLOUGH   | ! <b>₩</b>   |  | CHANNEL  | CATFISH I  | RESII 8  | 10-10-21   | . 5      |  | -  |   |  |   |  |              |   | i  |
| 519.10.07  | REILE.  | VIVITO   | SLOUGH   | *  |  | BROWN 8  | ULLHEAD I  | LESH 8   | 0-10-23  | .5       | H .  |  |   | N  |   | 50   | . 5          | . 5   |  |
| 520.11.36  | COLUS   | SA DRAI  | M/ABEL I   | GAOS   |  | BROWN BI   |  |  |  | -        | N T  | - 5  |   | N  |   | ·S0 .  | ٠5           | . 5   |  |
| 320.11.36  | COLUS   | A DRAI   | HIADEL A   | MAR  |  | BROWN BI   |  |  | 0-10-23  | .5       | H  | • 5  |   | N  |   | 20   | .5           | . 5   | •  |
| 524.47.15  | SACRA   | MENTO I  | R / KESI   | /I CK  |  | RAINBOW  |  |  | 0 - 10 - 23  | .5       | N  | - 5  |   | N  |   | 20   | - 5          | . 3   |  |
| 524.47.15  | SACRA   | MENTO  | R / KESL   | /1ck   |  | RATHBOW  |  |  | 0-10-08<br>0-10-09   | H        | N  | H  |   | . #  |   | H  | N            | Ħ   |  |
| 526.14.00  | PITR  | 1/PII 7  | POPERHO  | USE  |  | RATHBOW  |  |  |  | ·5<br>·5 | . N  | - 5  |   | N  |   | 20   | -5           | - 5   |  |
|  |   |  | _  |  |  |  | 18001 7  | LE 5/1 (II   | 0.10.53  | •3       | W  | •5   |   | Ħ  | •   | 20   | ٠5           | .5  |  |
|  | ALF   | lia.   | CIS  | , GAHE   |  | 1RAHS  | total r  | UI OROUS   | 8 CHLOR  | .4       |  | 000 b  |   |  |   | <u> </u>   |              |   |  |
| SIATION  | CHLOR   | DENE CI  | LORDANE  | CHLORD   | EHE  | CHLORDAN   | E CHLORDA  | NE<br>NE   | PYRIFOS  | DACTH    | AL 0-0   |  | , P O, P  |  |   |  |              | 001<br>P.P  | TOTAL  |
| 103.11.12  | Н   |  | · 5  | H  |  | · 5  | D  | -30  | - 10   | -5       |  | ·10 ·  | 10 - 10   | .5   | -30   | . 15   | · 10         | .10   |  |
| 103.11.12  | H   |  | ٠5   | Ħ  |  | -5   | b ·  | -30  | - 10   | . 5      | 'n   |  | 10 - 10   |  | -30   |  | -10          |   |  |
| 105.30.03  | - 11  |  | ٠5   | , H  |  | - 5  | D  | - 30   | -10  | . 5      | ŭ  |  | 10 -10  | •  | -30   |  | -10          |   | D  |
| 519.10.07  | И   |  | ٠5   | H  |  | -5   | 8  | - 30   | - 10   | .5       |  | -10  |   |  | -30   |  |              |   | 0  |
| 519.10.07  | N   |  | 12   | N  |  | Š  | 49   | -30  | - 10   | .5       | 74<br>LL   |  | 1014  |  | · 30  |  | - 10<br>- 10 |   | 437  |
| 20.11.36   | И   |  | 10   | Ħ  |  | Ī.   |  | -30  | - 10   | 21       | , F  |  | 6 - 10  |  |   |  |              |   | 1358   |
| 30.11.36   | И   |  | -5   | . 18   |  | - 5  | 36<br>12   | -30.   | - 10   | 36       | Ñ.   | 10   | J . 10  | 557  | .30   |  | -10          |   | 355  |
| 524.47.15  | н   |  | H  | H  |  | N  | N  | N  | Ň  | N N      | 'n.  | 16   | N N   | 그릇을  | .30   |  |              |   | . 623  |
| 24.47.15   | Ħ   |  | -5   | N  |  | . 5  | b  | -30  | - 10   | -5       |  | -10 -1   |   | 돭  | .30   |  | -10          | N N   | -22.   |
| 526.14.00  | H   |  |  |  |  |  |  |  |  |          |  |  |   |  |   |  |              |   | 25   |
|  |   |  | -5<br>   | N<br>Direct  |  | .5   | D  | -30  | -10  | -5       | ×  | -10 -1   | 0 - 10  | 56.  | -30   | -15  | -10          | -10   | .56  |
| STATION  | EF OI   |  | DICHLO<br>FENTHIO  | DICOF<br>N   |  | IELORIN  | DIPHENAHII   | D ENDO<br>SULFA  | EHDO<br>H 1 SULFAI   | E 11 S   | N<br>ODH<br>HATJU  | 10 -1  | ENDR  | 56.  | -30<br>   | -15  | -10<br>RD FI | -10   | .56  |
| STATION 03.11.12   | N .   | 50   | DICHLO<br>FEMIHIO<br>-10                                     | 01 COF<br>N - 100  | <u>.</u>   | 1ELORIN<br>-5  | DIPHENAMII<br>N                                    | D ENDO<br>SULFA  | EHOO<br>IN 1 SULFAH  | E 11 S   | N<br>ODH<br>HATJU  | 10 -1<br>TOTAL<br>ENDO   | ENDR  | 56.<br>IN ET   | -30<br>   | -15<br>FENIT   | -10<br>RD FI | -10   | .56  |
| STATION 03.11.12   | N .   | 50<br>50   | - 10<br>- 10   | • 100<br>• 100   | )<br>  | 1ELDR1N<br>-5<br>-5  | DIPHEHAHII<br>R<br>R                               | D ENDO<br>SULFA  | EHOO<br>IN 1 SULFAI  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI  | ENDR  | 56.<br>IN ET   | +10H  | -15<br>FENIT<br>THION  | -10<br>RD FI | ·10   | .56  |
| STATION 03.11.12<br>03.11.12<br>03.31.12   | N   | 50<br>50<br>50   | - 10<br>- 10<br>- 10<br>- 10                                 | • 100<br>• 100<br>• 100<br>• 100   | )<br> <br>   | 1ELDR1N<br>-5<br>-5  | DIPHENAMII<br>H<br>H<br>H                          | D ENDO<br>SULFA  | EHOO<br>IN 1 SULFAI<br>5 H<br>5 H  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI  | ENDR  | .56.<br>IN ET  | -30<br>HIOH   | -15<br>FENIT<br>THION  | -10<br>RO FI | ·10<br>HTHI   | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07   | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10                 | • 100<br>• 100<br>• 100<br>• 100<br>• 100  | )<br> <br> <br>                                    | -5<br>-5<br>-5<br>-5<br>-7   | DIPHENAMII<br>H<br>H<br>H<br>H<br>H                | D ENDO<br>SULFA  | EHOO<br>IN 1 SULFAR  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI<br>D<br>D                                    | ENDR<br>4<br>- 15<br>- 15<br>- 15   | 56.  | -30<br>20<br>20<br>20<br>20   | -15<br>FENIT<br>THION<br>-10<br>-10<br>-10                             | -10<br>RO FI | ·10  H H H  | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07   | N   | 50<br>50<br>50<br>50<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10         | • 100<br>• 100<br>• 100<br>• 100<br>• 100  | )<br> <br> <br> <br> <br>                          | 1ELDR1N -5 -5 -5 -7 40   | DIPHENAMII<br>H<br>H<br>H                          | D ENDO<br>SULFA  | ENDO<br>IN 1 SULFAN<br>5 H<br>5 R<br>5 R<br>5 R  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI<br>D<br>D                                    | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15                                 | 56.  | -30<br>20<br>20<br>20<br>20   | -15<br>FENIT<br>THION<br>-10<br>-10                                    | -10<br>RO FI | · 10<br>ENTHE<br>H<br>H<br>H                                    | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>i19.10.07<br>i19.10.07<br>20.11.36   | N H H H H H H   | 50<br>50<br>50<br>50<br>50<br>50   | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10                | • 100<br>• 100<br>• 100<br>• 100<br>• 100<br>• 100   | )<br> <br> <br> <br>                               | -5<br>-5<br>-5<br>-5<br>-7   | DIPHENAMIO<br>N<br>N<br>H<br>H<br>H<br>H<br>N      | D ENDO<br>SULFA  | EHDO H 1 SULFAH H 1 SULFAH H 1 SULFAH H 1 S H 1  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI<br>D<br>D                                    | ENDR<br>4<br>- 15<br>- 15<br>- 15   | 56.  | -30<br>20<br>20<br>20<br>20   | -15<br>FENIT<br>THION<br>-10<br>-10<br>-10                             | -10<br>RO FI | HTHE  | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>119.10.07<br>119.10.07<br>20.11.36<br>20.11.36   | N | 50<br>50<br>50<br>50<br>50<br>50<br>50   | -10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10         | 01 COFN - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100  | )<br> <br> -<br> -<br> -                           | 1ELDRIN -5 -5 -7 -40 -8 -5   | DIPHENAMIO<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H | D ENDO<br>SULFA  | EHDO<br>IN 1 SULFAI<br>5 N<br>6 R<br>6 N<br>7 R<br>6 N<br>7 R  | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL<br>ENDO<br>SULFAI<br>D<br>D<br>D<br>D                          | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15         | 56.  | -30<br>20<br>20<br>20<br>20<br>20<br>20   | -15<br>FENIT<br>THION<br>-10<br>-10<br>-10                             | -10<br>RO FI | HTHE  | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>24.47.15   | N | 50<br>50<br>50<br>50<br>50<br>50<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 01 COP<br>N - 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000   |  | 1ELDRIN  -5 -5 -7 -40 -8 -5 N  | DIPHENAMIA<br>N<br>N<br>H<br>H<br>H<br>H<br>H<br>H | D ENDO<br>SULFA  | EHDO H 1 SULFAI H 1 SU | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL ENDO SULFAI  | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15         | 56.  | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THION -10 -10 -10 -10 -10 -10                                | -10<br>RO FI | HTHE  | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>03.11.12<br>03.11.07<br>19.10.07<br>20.11.36<br>24.47.15   | N H | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 0 i COP<br>N - 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100<br>- 100  |  | 1ELDR1N -5 -5 -7 -40 -5 -8 -5 -8   | P H H H H H H H H H H H H H H H H H H H            | D ENDO<br>SULFA  | ENDO N 1 SULFAN    | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL ENDO SULFAI  | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15 | 56.  | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80                         | -15 FENITHON -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                   | -10<br>RO FI | HTHE  | .56  |
| 03.11.12<br>03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>619.10.07<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>24.47.15<br>24.47.15<br>24.47.15  | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 01 COP N - 1000  |  | 1ELDRIN  -5 -5 -7 -40 -8 -5 N  | DIPHENAMIA<br>N<br>N<br>H<br>H<br>H<br>H<br>H<br>H | D ENDO<br>SULFA  | ENDO N 1 SULFAN    | E 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL ENDO SULFAI D D D D D D D D D D D D D D D D D D D              | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15         | 56.  | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80                         | -15<br>FENIT<br>THION<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10<br>-10 | -10<br>RO FI | HTHE  | .56  |
| 03.11.12<br>03.11.12<br>05.38.03<br>19.10.07<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>24.47.15<br>24.47.15<br>24.47.15   | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 01 COF N - 1000  | HCH  | -5 -5 -7 40 8 -5 N -5 -5 -5  | DIPHENAMIA  R R R R R R R R R R R R R R R R R R    | D ENDO<br>SULFA  | ENDO N 1 SULFAN    | f 11 S   | N<br>HDO<br>IJLFAN<br>ULFATE   | TOTAL ENDO SULFAI D D D D D D D D D D D D D D D D D D D              | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15 | SA.  | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80                         | -15 FENITHON -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                   | -10<br>RO FI | HTHE<br>HH<br>H<br>H<br>H<br>H<br>H<br>H<br>H                   | SIG<br>DH  |
| 03.11.12<br>03.11.12<br>03.11.12<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10. | N H H H H H H H H H H H H H H H H H H H   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>8<br>8<br>8<br>8<br>9   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 100 -  | -S<br>HCH<br>HCH                                   | -5 -5 N -5 -5 N GAPHA  | DIPHENAHII  N N N N N N N N N N N N N N N N N N    | D ENDO<br>SULFA  | ENDO H 1 SULFAI  N 1 SULFAI  N N N N N N N N N N N N N N N N N N N   | f 11 S   | HDO<br>JILFAH<br>ULFATE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H     | TOTAL ENDO SULFAI D D D D D D D D D D D D D D D D D D D              | ENDR<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15      | 56.  | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>80<br>20<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80 | -15 FENIT THTON -10 -10 -10 -10 -10 -10 -10 -10 -10                    | -10 FO       | HTHE HT HT HT HT HT HT HT HT HT HT HT HT HT                     | JG<br>DH<br>OFEN                                     |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.18.03<br>19.10.07<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>20.11.36<br>24.47.15<br>24.47.15<br>24.47.15<br>26.14.00   | H H H H H H H H H H H H H H H H H H H   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 100 -  | -5 -5  | -5 -5 -7 -40 -5 -5 -7 -7 -5 -5 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7                              | DIPHENAMIN  H H H H H H H H H H H H H H H H H H    | D ENDO<br>SULFA  | ENDO N 1 SULFAI S N 1 S  | f 11 S   | M<br>DOC<br>ULFAN<br>ULFATE<br>N<br>N<br>N<br>N<br>N<br>N<br>N<br>H<br>N | TOTAL ENDO SULFAI D D D D 22 D D H D D D D D D D D D D D D D D D D D | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15 | 56.  | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THION -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | HTHE HE HE HE HE HE HE HE HE HE HE HE HE H                      | SE SE SE SE SE SE SE SE SE SE SE SE SE S             |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>24.47.15<br>24.47.15<br>26.14.00<br>STATION  | N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>50<br>8<br>50   | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 01 COP N  - 1000   | -22<br>-22   | -5 -5 NCH A GAPHIA   | DIPHENAMIN  N N N N N N N N N N N N N N N N N N    | SULFA  SU | ENDO H 1 SULFAI  N 1 SULFAI  N 1 N N N N N N N N N N N N N N N N N   | f 11 S   | HDO<br>JILFAH<br>ULFATE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H     | TOTAL ENDO SULFAI D D D D D D D D D D D D D D D D D D D              | ENDR<br>4<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15<br>- 15 | 56. IN ET  | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>80<br>20<br>N<br>20<br>20<br>N<br>20<br>20   | -15 FENIT THTON -10 -10 -10 -10 -10 -10 -10 -10                        | -10 FO       | HTHE HT HE HT HT HT HT HT HT HT HT HT HT HT HT HT               | 36<br>ON OFEN  |
| 51A110H  203.11.12 203.11.12 205.18.03 19.10.07 19.10.07 19.10.07 19.11.36 20.11.36 20.11.36 24.47.15 24.47.15 24.47.15 26.14.00  51A110H  | N H H H H H H H H H H H H H H H H H H H   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8<br>8<br>8<br>8  | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | 0 1 COP N  - 1000 - 200 - 200 - 200 - 200 - 200  | HCH DEL1   | -5 -5 -7 40 8 -5 N -5 -5 N GAPHA GAPHA   | DIPHENAMIN  N N N N N N N N S S S S S S S S S S    | D EMDO<br>SULFA  | ENDO IN 1 SULFAI  THE NA  THE NA  THE CHLORO  THE BENZEN  THE STATE OF | f 11 S   | HDO<br>JILFAH<br>ULFATE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H     | TOTAL ENDO SULFAI D D D D 22 D D H D D D D D D D D D D D D D D D D D | ENDR 4 - 155 - 15 - 15 - 15 - 15 - 15 - 15 - 1                            | 56. IN ET  | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THTON -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | H H H H H H H H H H H H H H H H H H H                           | 36<br>ON<br>OF EN                                    |
| 51A110H  03.11.12 03.31.03 19.10.07 19.10.07 19.10.07 19.10.07 19.10.07 51A110H  51A110H  103.11.12 103.11.12 103.11.12 105.30.03 119.10.07  | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8<br>50<br>8<br>6<br>8  | - 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10<br>- 10 | DICOPN  - 1000 -   | -22<br>-22   | -5 -5 -7 40 8 -5 N -5 -5 N GAPHA GAPHA   | DIPHENAHII  N N N N N N N N N N N N N T T T T T    | B ENDO<br>SULFA  | ENDO N 1 SULFAI  N 1 SULFAI  N N N N N N N N N N N N N N N N N N N   | f 11 S   | HDO<br>JILFAH<br>ULFATE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H     | TOTAL ENDO SULFAI DD DD DD DD DD DD DD DD DD DD DD DD DD             | EHDR 4 -155 -155 -155 -155 -155 -155 -155 -1                              | 56 IN ET   | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THTON -100-100-100-100-100-100-100-100-100-10                | NATE         | H H H H H H H H H H H H H H H H H H H                           | 56<br>DN<br>OF EN                                    |
| 03.11.12<br>03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>10.11.36<br>24.47.15<br>24.47.15<br>24.47.15<br>24.47.15<br>24.47.15<br>24.47.15<br>24.10.00<br>51ATION  | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>50<br>8<br>60<br>11<br>11   | DICHLO FENFHIO  -10 -10 -10 -10 -10 -10 -10 -10 -10 -1       | 0 1 COP N  - 1000 - 100   | HCH DEL1   | -5 -5 -7 40 8 -5 N -5 -5 HICH A GAHHA  | DIPHENAMIN  N N N N N N N N S S S S S S S S S S    | D ENDO<br>SULFA  | ENDO H 1 SULFAI  N 1 SULFAI  N 1 N N N N N N N N N N N N N N N N N   | f 11 S   | N HOO TIL FAN UL FATE N N N N N N N N N N N N N N N N N N N              | TOTAL ENDO SULFAI D D D D D D D D D D D D D D D D D D D              | ENDR 4 -15 -15 -15 -15 -15 -15 -15 -15 -15 -15                            | 56 IN ET   | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THTON -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | H H H H H H H H H H H H H H H H H H H                           | 56<br>DM<br>OF EN                                    |
| 03.11.12<br>03.11.12<br>03.11.12<br>05.38.03<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>24.47.15<br>24.47.15<br>26.14.00<br>STATION  | N H H H H H H H H H H H H H H H H H H H   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>50<br>8<br>6<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8 | -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                      | 0 1 COP N - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 20   | HCH DELT -22.02.02.02.02.02.02.02.02.02.02.02.02.0 | -5 -5 -7 40 8 -5 -5 N -5 -5 HCH A GAHMA -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2                     | DIPHENAMIN  N N N N N N N S S S S S S S S S S S    | D ENDO<br>SULFA  | ENDO H 1 SULFAN  N N N N N N N N N N N N N N N N N N   | f 11 S   | HDO<br>JILFAH<br>ULFATE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H     | TOTAL ENDO SULFAL DD DD DD DD DD DD DD DD DD DD DD DD DD             | ENDR 4  -13 -15 -15 -15 -15 -18 -18 -18 -18 -18 -18 -18 -18 -18 -18       | 56<br>IN ET<br>CHLOR<br>30<br>30<br>30<br>30<br>30<br>30                               | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THYON -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | H H H H H H H H H H H H H H H H H H H                           | 56<br>DN<br>OF EN                                    |
| 03.11.12<br>03.11.12<br>03.3.11.12<br>19.10.07<br>19.10.07<br>19.10.07<br>19.10.07<br>20.11.36<br>20.11.36<br>20.4.47.15<br>24.47.15<br>24.47.15<br>24.47.15<br>26.14.00<br>STALLON<br>103.11.12<br>103.11.12<br>103.11.12<br>103.11.12<br>103.11.13<br>105.30.03<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>107.10.07<br>1                                   | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>60<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11            | DICHLO FENTHIO - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1        | DICOPN  - 1000 -   | HCH DELT -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2    | -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -   | DIPHENAMIN  N N N N N N S S S S S S S              | D ENDO<br>SULFA  | ENDO IN 1 SULFAI  S H S H S H S H S H S H S H S H S H S  | f 11 S   | N HOO TIL FAN UL FATE N N N N N N N N N N N N N N N N N N N              | TOTAL ENDO SULFAIDO DO DO DO DO DO DO DO DO DO DO DO DO D            | ENDR 4  -13 -15 -15 -15 -15 -18 -18 -18 -18 -18 -18 -18 -18 -18 -18       | 56 IN ET   | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>8<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20              | -15 FENIT THION -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | H H H H H H H H H H H H H H H H H H H                           | 56<br>DN<br>OF EN                                    |
| 51A110H  03.11.12 03.11.12 15.38.03 19.10.07 19.10.07 20.11.36 20.11.36 24.47.15 24.47.15 24.47.15 103.11.12 103.11.12 105.38.03 119.10.07 119.10.07 120.11.36 120.11.36 120.11.36   | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>8<br>8<br>8   | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10                      | 0 1 COF<br>N - 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200 | HCH DEL! -2.2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2   | -5 -5 -7 -40 -5 -5 -7 -40 -5 -5 -7 -7 -40 -5 -5 -5 -5 -5 -5 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 | DIPHENAMIN  N  N  N  N  N  N  N  S  -5  -5  -5  -5 | D ENDO<br>SULFA  | ENDO N 1 SULFAI  N 1 SULFAI  N 1 N N N N N N N N N N N N N N N N N   | f 11 S   | N NOO JILFAN ULFATE N N N N N N N N N N N N N N N N N N N                | TOTAL ENDO SULFAI DD DD DD DD DD DD DD DD DD DD DD DD DD             | EHDR 4 -15 -19 -19 -19 -19 -19 -19 -19 -19 -19 -19                        | 56.<br>IN ET<br>HLOR<br>30<br>30<br>30<br>30<br>30<br>30<br>30<br>30<br>30<br>30<br>30 | -30<br>HION<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | -15 FENIT THION -10 -10 -10 -10 -10 -10 -10 -10 -10 -10                | NATE         | - 10<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>N<br>N<br>N          | 56<br>DN<br>OFEN<br>10<br>10<br>10<br>10<br>10<br>10 |
| 51A110H  23.11.12 23.11.12 25.38.03 19.10.07 19.10.07 19.10.07 19.10.07 20.11.36 20.4.47.15 24.47.15 24.47.15 26.14.00  51A110H  | N N N N N N N N N N N N N N N N N N N   | 50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>8<br>60<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11<br>11            | DICHLO FENTHIO  -10 -10 -10 -10 -10 -10 -10 -10 -10 -1       | 0 1 COF<br>N - 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 1000<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200<br>- 200 | -2.0<br>-2.0<br>-2.0<br>-2.0<br>-2.0               | -5 -5 -7 -40 -5 -5 -7 -40 -5 -5 -7 -7 -40 -5 -5 -5 -5 -5 -5 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 | DIPHENAMIN  N N N N N N N S S S S S S S S N        | D ENDO<br>SULFA  | ENDO H 1 SULFAN  N 1 SULFAN  N N N N N N N N N N N N N N N N N N   | f 11 S   | N HOO TIL FAN UL FATE N N N N N N N N N N N N N N N N N N N              | TOTAL ENDO SULFAIDO DO DO DO DO DO DO DO DO DO DO DO DO D            | EHOR 4 - 15 - 15 - 15 - 15 - 15 - 15 - 15 -                               | 56 IN ET   | -30<br>HIOH<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>8<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20              | -15 FENIT THION -10 (10 -10 -10 -10 -10 -10 -10 -10 -10 -10 -          | NATE         | - 10<br>ENTHE<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>N<br>N<br>N | 56<br>DN<br>OF EN                                    |

N = not mnalyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

<sup>\*</sup> NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

1980 (contlined)

| STATION       | CTS<br>NONACHLOR | TRANS<br>NONACHLOR | OHITE  | ORGANO<br>ARSENT       |          | CHLORDANE | PARATHION<br>ETHYL | PARATHION,<br>METHYL |       |      |            | PC8<br>1260 |         | PCNB |                        | PHENOL                          |
|---------------|------------------|--------------------|--------|------------------------|----------|-----------|--------------------|----------------------|-------|------|------------|-------------|---------|------|------------------------|---------------------------------|
| 103.11.12     | " <b>H</b>       | -5                 | N      | H                      |          | . 5       | - 10               | -10                  | -50   | -50  | -50        | -50         | D       | -5   |                        | H                               |
| 103.11.12     | N                | -5                 | N      | K                      |          | . 5       | 10                 | - 10                 | -50   | -50  | -50        | -50         | D       | -5   |                        | H                               |
| 105.38.03     | 14               | -5                 | N      | Ñ                      |          | Š         | -10                | · iŏ                 | -50   | -50  | -50        | -50         | D       | ٠5   | ŀ                      | N                               |
| 519.to.07     | × γ              | 8                  | Ħ      | N                      |          |           | - 10               | - 10                 | -50   | -50  | -50        | 180         | 180     | . 5  | 1                      | ¥                               |
| 519.10.07     | ≯ N              | 32                 | H      | H                      |          | ٠.5       | • 10               | • 10                 | -50   | -50  | .50        | 350         |         | -5   | i                      | N                               |
| 520.11.36     | И                | . 19               | H      | N                      |          |           | -10                | -10                  | -50   | -50  | . 50       | 350         |         | -5   |                        | <b>u</b> ,                      |
| 520, 11.36    | H                | 12                 | N      | Ü                      |          |           | - 10               | - 10                 | -50   | -50  | -50        |             | 330     | -5   |                        |                                 |
| 524.47.15     | N                | N N                | Ñ      | N.                     |          | ű         | N                  | N                    | N     |      | - JU       | -518        | 420     | - 3  |                        | M .                             |
| 524.47.15     | N                | -5                 | N      | ü                      |          | · ŝ       | - 10               | - 10                 | -50   | -50  | .50        | -50.        | n<br>h. | 5    | 1                      | N<br>M                          |
| 526.14.00     | N                | · <b>5</b>         | H      | Ü                      |          | ٠,5       | - 10               | -10                  | -50   | -50  | -50        | -30         | ָ b     | 5    |                        | r<br>H                          |
| STATION       | PERTHANE         | PHENKAPTO          | OH PHO | DRATE                  | PRONAHID | E RONNEL  | SIHAZINE           | STROBANE             | 1 CE  | 161  | RADIF      | DH 1        | OXAPHE  | HE   |                        | AKS >5PPB<br>ETHYL ETHER        |
| 103.11.12     | 450              |                    |        |                        |          |           |                    |                      |       |      |            |             | <u></u> |      |                        |                                 |
| 103.11.12     | - 150            | - 25               |        | 60                     | H        | -5        | H ·                | · 500                | ĸ     |      | - 20       | •           | . 100   |      |                        | M                               |
|               | - 150            | · 52               |        | 60                     | H        | -5        | Ħ                  | - 200                | *     |      | - 20       |             | : 100   |      |                        | N                               |
| 105.30.03     | - 150            | · 55               | •      | 60                     | H        | -5        | H                  | - 200                |       |      | -50        |             | - 100   |      |                        | H                               |
| 19.10.07      | - 150            | · 25               |        | 60                     | H        | -5        | Ħ                  | - 200                | H     |      | - 20       |             | 300     |      |                        | H                               |
| 19.10.07      | - 150            | - 25               |        | 60                     | Ħ        | ٠5        | 14                 | - 200                | Ħ     |      | - 20       |             | 400     |      |                        | M                               |
| 520.11.36     | - 150            | - 25               |        | 60                     | H        | -5        | N                  | - 200                | Ń     |      | - 20       |             | 200.    |      |                        | W                               |
| 520.11.36     | - 150            | - 25               |        | 60                     | N        | .5        | Ħ                  | -200                 | Ä     |      | - 20       |             | 100     |      |                        | W                               |
| 524.47.15     | Ħ                | H                  |        | N                      | H        | N         | N                  | N                    | ×     |      | H          |             | N       |      |                        | Ü.                              |
| 524.47.15     | - 150            | · 25               |        | - 60                   | R        | - 5       | H                  | - 200                | Ħ     |      | - 20       |             | - 100   |      |                        | Ü                               |
| 26.14.00      | - 150            | - 25               |        | 60                     | H        | -5        | H                  | -200                 | Ħ     |      | - 50       |             | - 100   |      |                        | Ä                               |
| STATION       |                  | KS >5PPB<br>ETHYL  | Đ      | PEAKS<br>15% ET<br>HER |          |           | ,4-D<br>SOBUTYL ES | 2,4-0<br>IER N-8U    |       | STER | 2,4<br>150 |             | L ESTE  | R (  | ETRA<br>HLDRO<br>HENOL | DICHLORO<br>BENZO<br>PHENONE P, |
| 03.11.12      |                  | 14                 |        | N                      |          | N         | - 100              |                      | -10   | 0    |            | -           | 100     |      | N                      | N                               |
| 103 . 11 . 12 |                  | N                  |        | N                      |          | Ħ         | - 100              |                      | -10   |      |            |             | 100     |      | Ħ                      | N                               |
| 105.38.03     |                  | H                  |        | 11                     |          | N         | - 100              |                      | - 10  | 0    | ٠.         | •           | 100     |      | N                      | N                               |
| 19.10.07      |                  | H                  |        | N                      |          | H         | - 100              |                      | - 10  | )    |            |             | 100     |      | N                      | H                               |
| 19.10.07      |                  | Ħ                  |        | Н                      |          | N         | - 100              |                      | - 100 |      |            | •           | 100     |      | N                      | N                               |
| 20.11.36      |                  | N                  |        | H                      |          | ii        | -100               |                      | - 101 |      |            |             | 100     |      | v                      | - 81                            |
| 20.11.36      |                  | N                  |        | 'n                     |          | ü         | -100               |                      | - 10  |      |            |             | 100     |      | n<br>V                 | N N                             |
| 24.47.15      |                  | N .                |        | N                      |          | ä         | N .                |                      | 101   | •    |            | - '         | W       |      | n<br>19                | N                               |
| 24.47.15      |                  | N                  |        | 'n                     |          | Ü         | · 100              |                      | - 10  |      |            |             | 100     |      | n<br>H                 | M                               |
| 26.14.00      |                  | <br>H              |        | N                      |          | п.        | 100                |                      | - 100 |      |            |             | 100     |      | Ħ                      |                                 |

N = not analyzed. v = below indicated detection limit. D = below detection limit (no limit indicated).

 $<sup>\</sup>star$  not within northern district but within the monitoring area

1981 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION                          | STATI            | он или     |               |                                       | HAHE                  |              | TISSUE<br>TYPE         | SAMPLE<br>DATE       | ALDRIN       | ATRAZIHI   | BENEFI           | N CARBARY               | L CARBO<br>PHENO<br>THEONE |                        | CHLORBENSI  |
|----------------------------------|------------------|------------|---------------|---------------------------------------|-----------------------|--------------|------------------------|----------------------|--------------|------------|------------------|-------------------------|----------------------------|------------------------|-------------|
| 105.11.06                        |                  |            |               |                                       | SCULPIN               |              |                        | 91-09-14             | -5           | -50        | -5-              |                         | - 20                       | -5                     | -5          |
| 106.12.03<br>109.10.10           |                  |            | ILLOW         | CK                                    | RATHOON TO<br>SCIRPIN | tout         |                        | 11-09-13             | - N          | .50        | . K              | - 200                   | . 50<br>M                  | . Y                    | ¥           |
| 11.12.01                         |                  |            | A             |                                       | SCULPIN               |              |                        | B1-09-14<br>B1-09-16 | 13           | -50        | .51              |                         | -50                        | .5                     | .5          |
| 11.63.14                         |                  |            |               |                                       | GREEN SUN             | FISH         |                        | 81-09-17             | ń            | Ň          | Ñ                | Ä                       | H                          | Ñ                      | -5<br>N     |
| 13.52.16                         | CLEAR !          | LAKE/RA    | TILESH        | AKE ISLE                              | LARGEHOUT             | BASS         | FLESH !                | 81-08-11             | - 5          | -50        | -5               | -200                    | -20                        | 5                      |             |
| 19.10.06                         |                  |            |               |                                       | CARP                  | ••           |                        | 81-07-16             |              | -50        | - 5              | -500                    | . 20                       | .,                     | .5          |
| 19.10.06                         |                  |            |               |                                       | CHANNEL               | CATEISH      |                        | 01-07-16             | ` .5         | -50        | 5                | -200                    |                            |                        |             |
| 19.10.07                         |                  |            |               | <b>!</b>                              | CHARNEL               |              |                        | 81-07-16             | -            | -50        | 5                | - 200                   |                            |                        |             |
| 50.11.03                         | COLUSA           | DRAIN/     | KHIGHT        | S LANDING                             | M CHANNEL             |              |                        | 81-07-23             | . 5          | -50        | - 5              | -200                    |                            |                        |             |
|                                  |                  |            |               | S LAHOTHG                             |                       |              |                        | 81-07-23             | -5           | -50        | -5               | - 500                   | -20                        |                        |             |
| 20.11.36                         |                  |            |               |                                       | CHANNEL C             | A F F I S II |                        | 81-07-23             | - 5          | -50        |                  | -500                    | - 20                       | • •                    |             |
| i20.11.36<br>i23.12.10           |                  |            |               |                                       | CARP                  |              |                        | 81-07-23             | .5           | -50        | .5               | - 500                   |                            |                        |             |
| 24.47.15                         |                  |            |               |                                       | RATHBOY T             | TIME         |                        | 81-07-30<br>81-07-13 |              | -50        | .5               | -200                    |                            |                        |             |
| 25.11.01                         |                  |            |               |                                       | LARGEHOUT             |              |                        | 81-07-10             | :5           | ·50<br>·50 | ٠,               | .200                    |                            |                        |             |
| 37.20.22                         |                  |            |               |                                       | SUCKER                |              |                        | 81-07-28             | -5,          | -50        | 5<br>-5          | - 200                   |                            |                        |             |
| •                                |                  |            |               |                                       |                       |              |                        |                      |              | - 70       |                  | -200                    |                            | , •:                   | -5          |
| STATION                          | ALPHA<br>HLORDEI | E CIILO    |               | GAMMA<br>CHLORDENE                    | TRANS<br>CIILORDANE   | TOTAL (      | CHLORONE <b>n</b><br>E | CHLOR<br>PYRIFOS     | DACTHAE      |            |                  | DE DOE DO<br>D,P P,P P, |                            | DOT DO                 |             |
| 05.11.08                         | ٠2               |            | -5            | . 5                                   | -5                    | D            | -30                    | -10                  | -5           | M -1       | 0 -10 -          | 10 -5 -30               | - 15                       | 10 -10                 | D           |
| 06.12.03                         | ٠z               |            | Ħ             | ٠2                                    | Ħ                     | Ď            | H                      | N                    | Ħ            |            | N N              | N N N                   |                            | N N                    |             |
| 07.10.10                         | ·S               |            | ٠5            | ٠.5                                   | - 5                   | 0            | ·30                    | -10                  | -5           | - Ä •1     | 0 _Z. ·          | 10 -5 -30               | -15 -                      | 10 25                  | . 35        |
| 11.12.01                         | ٠ź               |            | -5            | ٠Ž                                    | - 5                   | Ð            | -30                    | -10                  | -5           | W +1       |                  | 10 -5 -30               |                            | 10 710                 | <u> </u>    |
| 11.63.14                         | -5               |            | N             | - 5                                   | H                     | D            | H                      | M                    | Н            | •••        | N N              | H H H                   | l M                        | N 1                    | i w         |
| 13.52.16                         | N                |            | ٠5            | H                                     | .5                    | · Đ          | •30                    | - 10                 | -5           | N -1       | 0 <u>12</u> .    | 10 <u>J</u> .31         | 1 -15                      | -10 -1                 | 0 <u>26</u> |
| 19.10.06                         | . 5              |            | ٠5            | ٠2                                    | ٠5                    | D            | -30                    | - 10                 | -5           | N -11      | 13 -             | 10 66 -30               | - 15 -                     | 1010                   | 79          |
| 19.10.06                         | - 5              |            | 6             | - 5                                   | ٠5                    | 19           | ·30                    | 10                   | -5           | N -1       |                  | 10 130 ·30              | 1 -15 -                    | 10 -10                 |             |
| 19.10.07                         | - 5              |            | ٠5            | . 2                                   | - 5                   | D            | -30                    | - 10                 | ٠5           | H -1       |                  |                         |                            | 10 -10                 | 108         |
| 20.11.03                         | - 2              |            | 5             | ٠2                                    | .5                    | 13           | ·30                    | - 10                 | 8            | N -1       |                  | 10 160 -30              |                            | 10 -10                 |             |
| 20.11.03                         | ٠.5              |            | - 5           | ٠.5                                   | ٠5                    | b            | · 30                   | - 10                 | - 5          | H -1       |                  |                         |                            | 0 -11                  | 2 2 1       |
| 20.11.36<br>20.11.36             | · 5              |            | . <u>\$</u> . | · 5                                   | -5<br>-5              | 12           | ·30                    | - 10<br>- 10         | . <u>6</u> . | N 1        | 0 53.·<br>1 44 · |                         |                            | 10 3                   |             |
| 23.12.10                         | . 2              |            | -5            | . 2                                   | .5                    | 5            | -30                    | -10                  | -5           | N .1       | d -18 -          |                         |                            | -10 -1<br>-10 -1       |             |
| 24.47.15                         | . 5              |            | -5            | . 2                                   | . 5                   | b            | -30                    | -10                  | .5           | N i        |                  |                         |                            |                        |             |
| 25.11.01                         | . 2              |            | -5            | 2                                     | -5                    | b            | ·30                    | - 10                 | .5           | W -1       |                  |                         |                            | · 10 · 11<br>· 10 · 11 |             |
| 37.20.22                         | ځ.               |            | 5.0           | 2                                     | .5.0                  | 0            | -30                    | -10                  | -5.0         | N -1       |                  |                         |                            | 10 -10                 |             |
| STATION                          | DEF D            | I AZ L HOH | DICHLO        | D DICOF                               | OL DIELDRI            |              | HID ENDO               | ENDO<br>N I SULF     | AN 11 S      | NDO        | IOTAL I          | NORIN ET                |                            | TRO I                  | FENTHION    |
| OE 11 00                         | . 100            |            |               | · · · · · · · · · · · · · · · · · · · |                       |              |                        | <del></del>          |              |            | <del></del>      |                         | 0 -1                       | •                      | N           |
| 05.11.08<br>06.12.03             | - 100<br>#       | ·50        | - 10<br>N     | - 100<br>N                            | -5<br>N               | -50<br>N     | -5<br>N                |                      | M            | N<br>N     | / D              | -15 -2<br>N             | -                          | N<br>N                 | H           |
| 07.10.10                         |                  | ·50        | - 10          | - 100                                 | -5                    | -50          | -5                     |                      | u<br>u       | N          | Ď                | -15 ·2                  |                            |                        | Ä           |
| 11.12.01                         |                  | -50        | - 10          | - 100                                 | -5                    | -50          | .5                     |                      | N            | Ä          | ŏ.               | -15 -2                  |                            |                        | -20         |
| 11.63.14                         | N                | N          | H             | N                                     | Ñ                     | N            | Ň                      |                      | N            | Ħ          | Ä                |                         |                            | Ä                      | Ħ           |
| 13.52.16                         | - 100            | -50        | - 10          | - 100                                 | -5                    | -50          | -5                     | •                    | H            | W          | D                | · 15 - 2                | . 0                        | 10                     | H ·         |
| 19.10.06                         | - 100            | -50        | - 10          | - 100                                 | 5                     | -50          | 16                     | i                    | H            | N          | 16               | ·15 ·                   | 0 -1                       | 0                      | -20         |
| 19.10.06                         | - 100            | -50        | - 10          | -100                                  | 6                     | -50          | zz                     |                      | N            | H          | 22               | - 15 - 2                |                            |                        | -20         |
| 19.10.07                         |                  | ·50        | - 10          | - 100                                 | 5                     | -50          | . 5                    |                      | N            | H          | D                | · iš · ·                |                            | 10                     | - 20        |
| 20.11.03                         |                  | -50        | - 10          | -100                                  | 8                     | -50          | 11                     |                      | H            | K          | 11               | -15 -2                  |                            |                        | -50/        |
| 20.11.03                         |                  | -50        | - 10          | - 100                                 | -5                    | .50          | . 5                    |                      | M            | N          | D .              |                         |                            | 10                     | -50         |
| 20.11.36                         |                  | ·50<br>·50 | - 10<br>- 10  |                                       |                       | -50          | .5                     |                      | M            | Ħ          | D                |                         |                            | 10                     | -20         |
| 20.11.36<br>23.12.10             |                  | · 50       | -10           |                                       |                       | -50<br>-50'  | .5<br>.5               |                      | N            | Ħ          | D                |                         |                            | 10<br>10               | -20°        |
| 23.16.10                         |                  |            |               |                                       | -                     |              |                        |                      | M<br>M       | H 1        | D                |                         |                            | -                      | -20         |
| 3, ,,                            |                  | -50        | - 10          | -100                                  | - 5                   | -50          | - 5                    | )                    | H            | и .        | D                |                         |                            | 10                     | W           |
| 24.47.15                         |                  | EO         | . 44          |                                       | _ P                   |              | -                      | •                    | 44           |            |                  | . 12                    |                            | 10                     | 44          |
| 24.47.15<br>25.11.01<br>37.20.22 | - 100            | -50<br>-50 | - 10<br>- 10  |                                       |                       | ·50<br>·50   | - 9                    |                      | N            | N<br>N 1   | Ð                |                         |                            | 10<br>10               | H           |

N = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

| 1001 | fcont | in and |
|------|-------|--------|
|      |       |        |

| STATION              | FONDF OS | CUTHION    | HCH<br>ALPHA | HCH<br>BETA | HCH<br>DELTA     | HCH<br>GAHHA | HEPTACHLOR    | CHLOR     | HEXA<br>CHLORO<br>BENZENE |       | HION  | HETHA<br>DITHIO | ME1  | CILLOF   | MIRE) | ( HOL | HATE     | HITROFEN                   |
|----------------------|----------|------------|--------------|-------------|------------------|--------------|---------------|-----------|---------------------------|-------|-------|-----------------|------|----------|-------|-------|----------|----------------------------|
| 05.11.08             | -5       | ·50        | · 2          | -10         | · 5              | ·S           | -5            | -5        | -2                        | -10   | 00    | -50             |      | -30      | -20   |       | H        | -10                        |
| 06.12.03             | H        | N          | Ñ            | 14          | Ä                | Ñ            | N             | i i       | X                         |       | Ħ     | Ħ               |      | И.       | · N   |       | H        |                            |
| 07.10.10             | -5       | - 50       | ٠2           | · 10        | ž                | چَ .         | ٠.            | -5,       | - 2                       | -10   | DÓ    | -50             | •    | -30      | · 20  |       | M        | · 10                       |
| 11.12.01             | .5       | -50        | . 2          | - 10        | ·ž               | ٠ž           | . 5           |           | ٠ž                        | -11   | 00    | -50             |      | -30      | - 20  | )     | H        | - 10                       |
| 11.63.14             | H        | H          | N            | , H.        | Ñ                | Ñ            | · ú           | Ň         | Ñ                         |       | ¥     | M               |      | Ħ        | H     | 1     | Ħ        | н                          |
|                      |          |            |              |             | - 2              | ٠ž           | - 5           | -5        | - 2                       | - 10  | DO .  | -50             |      | -30      | - 50  | ļ     | N        | • 10 •                     |
| 13.52.16             | .5       | -50        | - 5          | . 10        | ٠.               | ٠.٤          |               | -         |                           |       |       | -               |      | -30      | 20    |       | <b>u</b> | - 10                       |
| 19.10.06             | ¥ .5     | -50        | ٠2           | - 10        | · 2              | ٠Z           | -5            | - 5       | ٠S                        | - 10  |       | -50             |      |          | . 20  |       | N        | · 10                       |
| 19.10.06             |          | -50        | - 2          | - 10        | ٠z               | . 2          | -5            | -5        | ٠ž                        | - 10  |       | -50             |      | -30      |       |       | N        | -10                        |
| 19.10.07             |          | -50        | . 2          | - 10        | ٠2               | - 5          | -5            | -5        | ٠Z                        | - 10  |       | -50             |      | -30      | - 50  |       |          | •10                        |
| 20.11.03             |          | -50        | ٠ž           | - 10        | ٠ž               | ٠ž           | -5            | -5        | ٠z                        | - 11  | 00    | -50             |      | • 30     | - 20  |       | 7        | -10                        |
| 20.11.03             |          | -50        | ٠.5          | ,- 10       | ٠ž               | ٠ž           | -5            | -5        | ٠2                        | - 11  | 00    | -50             |      | -30      | 50    |       | ×        |                            |
|                      |          |            |              | -10         | ٠Ş               | ٠ž           | .5            | 5         | <u>.</u>                  |       | 00    | -50             |      | :30      | :5    | Ď.    | Ħ        | -10                        |
| 20.11.36             | - 5      | -50        | ٠ż           |             |                  |              |               |           | ·ž                        |       | 100   | -50             |      | .30      | . 5   | 0     | Ħ        | - 10 <i>/</i>              |
| 20.11.36             | -5       | -50        | 2            | - 10        | ٠Š               | ٠ż           | - 5           |           |                           |       | 100   | -50             |      | -30      | - 2   |       | M        | - 10                       |
| 23.12.10             | ٠5       | -50        | .5           | - 10        | - 2              | . 5          | -5            | •5        | - 2                       | -     |       |                 |      |          |       |       | 11       | - 10                       |
| 24.47.15             | - 5      | -50        | -2           | - 10        | ٠2               | ·z           | .5            | -5        | -2                        | -1    | 100   | -50             |      | - 30     | - 21  |       |          | - 10                       |
| 29.97.13<br>25.11.01 | -5       | -50        | . 5          | - 10        | . 2              | . 2          |               | ٠,        | -ž                        |       | 00    | -50             |      | -30      | . 21  |       | Ħ        |                            |
|                      |          |            | . 2          | - 10        | . 2              | ٠, ٢         | : 5           |           | . 2                       | - 1   | 100 . | -50             | •    | -30      | - 2   | 0     | Ħ        | - 10                       |
| 37.20.22             | . 5      | -50        |              |             |                  |              |               |           | <u>:</u>                  |       | nen   | nen n           | -    | bre.     | TOTAL | PCHR  | PENT     | <u></u>                    |
| SIATION              | HONACIIL | TRA        |              | DHITE       | ORGANO<br>ARSENI |              | OXYCHLORDAN   | ETHYL     | METH                      | 17L   | 1242  | 1248 1          | 254  | 1260     | PCB   | -5    | CHLO     | ROPHENOL                   |
| 05.11.08             | - 30     |            | ;            | N           | N                |              | -5            | -10       | •                         | 10    | -50   |                 |      | -50<br>N | Þ     | N.    |          | H<br>H                     |
| 06.12.03             | 30       | ,          |              | H           | H                |              | N             | . N       |                           | Ħ     | _#    | , N             | N    |          |       | -5    |          | H                          |
| 09.10.10             | - 30     |            |              | H           | 11               |              | -5            | - 10      | •                         | 10    | -50   |                 |      | -50      | D     |       |          |                            |
| 11.12.01             | -30      |            |              | M           | W                |              | -5            | *10       | -                         | 10    | -50   | -50 -           |      | -50      | D     | -5    |          | H                          |
|                      |          |            |              | N           | N                |              | Ň             | 14        |                           | Ħ     | 94    | M               | M    | N        | 14    | Ħ     |          | *                          |
| 11.63.14             | - 30     | 1          |              |             |                  |              |               | • 10      |                           | 10    | -50   | -50 -           | 50   | -50      | D     | ٠5    |          | W                          |
| 13.52.16             | N        | • !        | 5            | Ħ           | Ħ                |              | -5            |           |                           |       |       | • •             |      |          | D     | .5    |          | N                          |
| 19.10.06             | - 30     |            | 5            | Ħ           | Ħ                |              | -5            | - 10      |                           | 10    | -50   |                 |      | .50      | b     | ٠Š    |          | Ä                          |
| 19.10.06             | -30      | 1          | 1            | N           | N                |              | -5            | - 10      | •                         | · 10  | -50   |                 |      | -50      | -     | -5    |          | ü                          |
| 19.10.07             | -30      | 1          |              | н           | н                |              | -5            | - 10      | -                         | - 10  | -50   | -50 -           |      | -50      | D     | -5    |          | <u></u>                    |
| 20.11.03             | .30      |            | B            | 14          | N                |              | .5            | - 10      |                           | - 10  | -50   |                 |      | -50      | D     | .5    |          | S                          |
|                      | - 30     |            |              | М           | H                |              | -5            | - 10      |                           | - 10  | -50   | -50 -           | 50   | -50      | D     |       |          | Th.                        |
| 20.11.03             |          |            | ,<br>7       | N           | ม                |              | . ś           | - 10      |                           | - 10  | .50   | -50 -           | 50   | -50      | D     | .5    |          | N<br>                      |
| 20.11.36             |          |            | -            | Pr.         | H                |              | . ś           | 10        |                           | - 10  | -50   | -50 -           | 50   | -50      | D     | - 5   |          | K                          |
| 20.11.36             |          |            | 5            | H           | N                |              | -5            | - 10      |                           | - 10  | -50   |                 | 50   | -50      | D     | - 5   |          | N                          |
| 23.12.10             | -30      |            | 5            | N           | N                |              | -,            | * 10      |                           |       |       |                 |      |          |       | -5    |          | v                          |
| 37.20.22             | -30      | •          | 5            | H           | H                |              | -5            | - 11      | )                         | -10   | -50   | -50 ·           | 50   | -50      | D     | -,    |          | <u>" '</u>                 |
| \$1A110H             | rent     | IIANE PIIE | HKAPIO       | 11 P110     | RATE PI          | RONAHI       | DE RONNEL     | S I HAZ 1 | HE STR                    | DBANE | TCE   | TETRA           | DIFC | ON TO    | APHEN | :<br> |          | PEAKS>5PPB<br>X ETHYL ETHE |
|                      | - 151    |            | ·25          |             | -60              |              | 50 -5         |           | 1                         | -200  | N     | -2              | 20   |          | - 100 |       |          | R ,                        |
| 05.11.00             |          | N .        | Ñ            |             | N                |              | N N           |           |                           | - 50  | v     | •               | N    |          | N     |       |          | H                          |
| 06.12.03             |          |            | - 25         |             | · 60             | _            | 50 -5         |           | i                         | - 200 |       | . :             | 20   |          | - 100 |       |          | Ħ                          |
| 109.10.10            |          |            | -25          |             | -60              |              | 50 -5         | . 2       |                           | - 200 | - 2   |                 | 20   |          | - 100 |       |          | N                          |
| 11.12.0              |          |            | - K          |             |                  | •            | и .<br>И      |           | H I                       | 14    | ä     | -               | N    |          | H     |       |          | H                          |
| 111.63.14            |          | H          |              |             | H                |              |               |           |                           |       | .,,   |                 | 20   |          | -100  |       |          | M '                        |
| 513.52.10            | 5 - 15   | 0          | · 25         |             | -60              | •            | 50 -5         |           | <b>.</b>                  | - 200 | Ħ     |                 |      |          |       |       |          | -                          |
| 5 19 . 10 . 00       | s · 15   | n          | - 25         |             | - 60             |              | 50 - 5        | ٠2        | 0                         | - 200 | Ħ     |                 | 20   |          | - 100 |       |          | Ħ                          |
| 5 19 . 10 . 00       |          |            | - 25         |             | . 60             |              | 50 -5         | . ž       |                           | -500  | . H   |                 | 20   |          | 250   |       |          | Ħ                          |
| 519.10.0             |          |            | . 25         |             | -60              |              | 50 -5         | ٠ž        |                           | - 200 | Ħ     |                 | 20   |          | -100  |       |          | Ħ                          |
|                      |          |            | . 25         |             | -60              |              | 50 - <b>5</b> | جَ .      |                           | - 200 | N     |                 | 20   |          | -100  |       |          | H                          |
| 520.11.0             |          |            | - 25         |             | -60              |              | 50 -5         | . 2       |                           | -200  | Ħ     |                 | \$0  |          | · 100 |       |          | ¥                          |
| 520.11.0             |          |            | - 25         |             | -60              |              | 50 -5         |           |                           | -200  | N     |                 | 20   |          | -100  |       |          | и .                        |
| 520.11.3             |          |            |              |             | -60              |              | 50 -5         |           |                           | - 200 | 1     |                 | 20   |          | - 100 |       |          | H                          |
| 520.11.3             |          |            | . 25         |             |                  |              | 50 -5         |           |                           | - 200 | ï     |                 | 50   |          | - 100 |       |          | ₩ .                        |
|                      | 0 -1:    | U          | · 25         |             | · 60             |              |               |           |                           |       | ?     |                 | 20   |          | Íöö   |       |          | M .                        |
| 523.12.1<br>637.20.2 |          |            | · 25         |             | -60              |              | 50 -5         |           | N                         | -2001 |       |                 |      |          |       |       |          |                            |

N = not mnalyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

| 1081 | front | inuedi |
|------|-------|--------|

| HOTTATE    | # PEAKS >5PPB<br>9 6% ETHYL<br>ETHER | # PEAKS >SPPB<br>8 15% ETHYL<br>ETHER | 2,4-D<br>ACID | 2,4-t<br>15080 | )<br>JIYL ESIER | 2,4-0<br>H-BUTYL ESTER | 2,4-0<br>ISOPROPYL ESTER | TETRA<br>CHLORO'<br>PHENOL | DICHLORO<br>BENZO<br>PHENONE P, |
|------------|--------------------------------------|---------------------------------------|---------------|----------------|-----------------|------------------------|--------------------------|----------------------------|---------------------------------|
| 105.11.00  | N                                    | N                                     | n             |                | -100            | 100                    | - 100                    | H                          | H                               |
| 106.12.03  | ii                                   | N                                     | N             |                | N               | Ħ                      | N                        | H                          | H 11                            |
| 07.10.10   | N                                    | ¥                                     | N             |                | - 100           | - 100                  | - 100                    | N                          | N N                             |
| 11.12.01   | Ü                                    | N                                     | H             |                | - 100           | - 100                  | 100                      | ×                          |                                 |
| 11.63.14   | ii                                   | H                                     | . N           |                | H               | W                      | . и                      | H                          | H                               |
| 13.52.16   | N.                                   | N                                     | N             | ř.,            | -100            | - 100                  | -100                     | 17                         | . #                             |
| 19.10.06 3 | N                                    | N -                                   | N             |                | - 100           | - 100                  | - 100                    | Ħ                          | , II                            |
| 19.10.06 # | n                                    | N                                     | N             |                | -100            | -100                   | - 100                    | 11                         | 'n                              |
| 19.10.07   | Ü                                    | Ä                                     | Ä             |                | - 100           | - 100                  | - 100                    | H                          | N                               |
| 20.11.03 🛠 | Ü                                    | si si                                 | Ñ             |                | - 100           | - 100                  | - 100                    | Ħ                          | N                               |
| 20.11.03   | H ·                                  | Ņ .                                   | W             |                | - 100           | - 100                  | - 100                    | Ħ                          | H                               |
| 20.11.36   | Ħ                                    | N                                     | H             |                | - 100           | -100                   | - 100                    | H                          | H                               |
| 20.11.36   | N                                    | Ħ                                     | N             | ٠,             | - 100           | -100                   | - 100                    | N                          | H                               |
| 23.12.10   | 11                                   | N                                     | И             |                | - 100           | 100                    | - 100                    | Ħ                          | 1                               |
| 37.20.22   | U                                    | N                                     | w             |                | 100             | -100                   | - 100                    | W                          | H                               |

H = not mnalyzed. = = below indicated detection limit. D = below detection limit (no limit indicated).

1982 ORGANIC CHEHICALS IN FISH (ppb, wet weight)

| STATION                | SIAF            | 10H HA                | ME          |                |       |             | COMMON<br>NAME |           | TISSUE<br>TYPE              | SAMP<br>DAT   | LE                   | LDRIN         | ATRA        | ZINE        | BENE        | FIN (        | CARBA      |      | CARBO<br>PHENO<br>THION |      | EC C | HLORBEHS 10                |
|------------------------|-----------------|-----------------------|-------------|----------------|-------|-------------|----------------|-----------|-----------------------------|---------------|----------------------|---------------|-------------|-------------|-------------|--------------|------------|------|-------------------------|------|------|----------------------------|
| 519.10.06<br>519.10.07 |                 |                       |             |                | *     |             | ITE CATE       |           | FLÉSH<br>FLESH              |               |                      | -5            | ·;          | 20          | .9          |              | -40        |      | - 20                    |      | -5   | ·\$                        |
| STATION (              | ALPHA<br>MLORDE |                       | CIS<br>LORD | ANE CI         | GAHNA | HE CH       | TRANS          | TOTAL     | CHLDRONE                    | B CHL         | OR D/                | ACTHA         |             | 00          | D DOD       | DDE          | DDE        | DDHS | DOHU                    | 901  | 001  |                            |
| 519.10.06              | -5              |                       | 5.          |                |       | ····        | -5.0           | 17.0      | -30                         | -1            |                      | 15            | · · ·       |             | 34          |              | ·          |      |                         |      |      |                            |
| 519.10.07              | .5              |                       | - 5         |                | .5    |             | .5.0           | D         | -30                         | -1            | •                    | .5            |             |             | 1 11        |              |            |      | - 15                    |      |      | 314                        |
| STATION                | DEF D           | 1AZ FR                | OH D        | ICHLO<br>ENTHI | DIC   | JO 101      | DIELDRI        | N DIPHENA |                             |               | ENDO<br>SULFAI       | 11 N          | ENDO        | I H         | OTAL        | END          |            |      |                         | ITRO |      | HON                        |
| 519.10.06              |                 | .50                   |             | - 10           | - 10  | 00          | ٠5             | -50       | -!                          | <del>1:</del> | H                    |               | N           |             | D           | - 15         |            | -20  | _                       | 10   |      | 300                        |
| 519.10.07              | 300             | -50                   |             | · 10           | - 10  | 00          | .5             | - 50      | • !                         | 5             | N                    |               | •           | ė           | Ď           | - 15         |            | - 20 | _                       |      |      | 300                        |
| STATION                | FONOT           | os GUI                |             |                |       | HCH<br>DELT | ИСП<br>А БАННА | HEPTACH   | LOR HEPT<br>CHLOR<br>EPOXII | CHI           | EXA<br>LORO<br>NZENE | HAL           | ATHIO       |             | TA<br>H10N  | HETH<br>OXYC |            | HIRI |                         | LTHA | TE . | NITROFEN                   |
| 519.10.06              | .5              | - 2                   | 0           | .2.0           | - 10  | ·z          | ٠2             | -5        | .5                          | - 2           | .0                   | - 10          | 00          | -31         | 20          | -30          |            | -20  |                         | _    | -    | - 10                       |
| 519.10.07              | -5              | . 5                   | O           | ٠2             | - 10  | . 2         | ٠2             | -5        | -5                          | - 2           | 2.0                  | - 10          |             | -30         |             | -30          |            | -20  | ,                       |      |      | - 10                       |
| STATION                | C15<br>NOHACII  | LOR M                 | TRAN        | S (            | HITE  |             | O D            | XYCKLORDA | NE PARAT<br>ETHYL           |               | PARATI<br>METHYL     |               | PCB<br>1242 | PC8<br>1248 | PCB<br>1254 | PC8          | 101<br>PCB | AL P |                         | PEN  | I A  | HENOL                      |
| 519.10.06              | -5              |                       | 12.0        | )              | N     | N           |                | .5.0      | • 10                        | 0             | •10                  |               |             | -50         |             |              | 110        |      | .5                      |      | N    |                            |
| 519.10.07              | ·5              |                       | -5.0        | )              | Ħ     | H           |                | .5        | -1                          | 0             | - 10                 | ,             | -50         |             |             | -50          |            | _    | 5                       |      | N    |                            |
| STATION                | PERTI           | IAHE I                | HENK        | APTON          | PHOR  | ATE P       | RONAHIDI       | E RONNEL  | . SIHAZ                     | INE !         | BTROBA               |               |             |             | RADIF       |              |            |      | <u> </u>                | # 5  | EAKS | i>5PPB<br>IYL ETHER        |
| 519.10.06              | - 150           | ,                     | .2          | 5              | -6    | 0           | · 20           | .5        | *                           |               | · 20                 | 0             | #           |             | 20          |              | - 100      | _    |                         |      | 1    |                            |
| 19.10.07               | - 150           |                       | . 5         | 5              | .6    | 0           | . 20           | -5        | Ħ                           |               | - 20                 | 0             | Ħ           |             | 20          |              | - 100      | •    |                         |      | 0    |                            |
| STATION                | อ               | PEAKS<br>6% ET<br>HER |             | PB             |       | 5% E1       | >SPPB<br>HYL   |           | 2,4-D<br>ISOBUTYL           | . ESTE        | 2<br>R H             | ,4·0<br>-BUT1 | rL ESI      | TER         | 2,4<br>150  | -D<br>PROPY  | L ESI      | ER   | TETE<br>CHLC<br>PHER    | RO   | DIG  | CHLORO<br>NZO<br>ENONE P,P |
| 19.10.06               |                 | 0                     |             |                |       | 0           |                | н         | •                           | 10 <b>0</b>   |                      |               | -100        |             |             |              | 100        |      |                         | H    |      | H                          |
| 519.10.07              |                 | 0                     |             |                |       | 0           |                | N         |                             | 100           | :                    |               | - 100       |             |             |              | 100        |      |                         | H    |      | N <sub>1</sub>             |

N = not mustyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

<sup>\*</sup> NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

1983 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION  | STATE            | ON NAME                          |                   |   | COMMON   |                       |                               | ISSUE<br>IYPE | SAMPLE<br>DATE | ALDRIN            | AİR   | IB BHISA                  | ENEFIN        | CARB         | PH                        | R80<br>ENO<br>10N1N | CDEC                     |
|--|------------------|----------------------------------|-------------------|---|--|-----------------------|-------------------------------|---------------|----------------|-------------------|-------|---------------------------|---------------|--------------|---------------------------|---------------------|--------------------------|
| 105.32.00  | HATON            | CREEK                            |                   |   | STEELH   | EAD RAINBO            | N TROUT                       | FLESH         | 83-09-2        | 2 #               |       | H                         | H             | N            |                           | H                   | H                        |
| 519.10.06  |                  |                                  |                   |   |  | L CATFISH             |                               |               | 83-08-10       |                   |       | H                         | ٠5            |              | 1                         | - 20                | -5                       |
| 519.10.06  | SULTER           | BYPASS #                         | ŀ                 |   |  | CATFISH               |                               | FLESH         | 83-08-11       | .5                |       | H                         | ٠5            | •            | ı                         | - 20                | 45                       |
| 637.20.22  | SUSAN            | R / SUSA!                        | IVILLE            |   | SUCKER   | ,                     |                               | FLESH         | 83 · 10 · 1    | -5                |       | H                         | -5            | H            |                           | - 20                | . \$                     |
| STATION  |                  | ALTHA<br>E CHLORDI               | CIS<br>ENE CHI    |   | SAMMA<br>SHLORDENE   | TRANS<br>CHLORDANI    |                               |               | EB CHLO        |                   | HAL   | D·D DD<br>O,              |               | 00E<br>P 0,P | 00E 00                    |                     | 100 UHO<br>4,0 4,        |
| 105.32.00  | 1 14             | Ħ                                | <u> </u>          | N   | н  | Ħ                     | H                             |               | ١              | H                 | Ħ     |                           |               | H H          | N                         | H                   | H H<br>18 12             |
| 519.10.06  |                  | -5.0                             |                   | 8.4   | ٠5   | -5.0                  | 20.4                          | - 30          |                |                   | - 5   |                           |               | 0 -10        |                           |                     | -15 -10                  |
| 519.10.06  |                  | .5.0                             |                   | ·5.0  | ٠5   | -5.0                  | 6.3                           | · •30         |                | 10                | • 5   | H • 1                     | . –           |              |                           |                     |                          |
| 637.20.22  | -5<br>           | -5.0                             |                   | ·5.0  | -5   | ·5.ô                  | D                             | - 30          | •:             | ło                | -5    | N -1                      | 0 -10         | - 10         | -5.0 -                    | 30                  | 15 - 10                  |
| STATION  |                  | DIAL DEF                         | DTAZIH            | ION DICHL<br>FERT                                       |  | FOL DIELDA            | IIN DIPKE                     |               | EHDO<br>SULFAN | ENDO<br>I SULFAI  |       | EHDO<br>SULFAN<br>SULFATE | ENDO          |              | IRIN ETH                  |                     | ENTTRO<br>HION           |
| 105.32.00  | N                | N N                              | N                 | N   | N  | H                     | 'n                            |               | N              | N                 |       | N /                       | N             | 1            | 1                         | 1                   | N                        |
| 519.10.06  | 100 7            | 94.0 N                           | -50               | - 10  | - 100  | .5.0                  | Ħ                             |               | 8.3            | - 10              |       | - 15                      | 6.3           | - 15         | - 20                      | •                   | - 10                     |
| 519.10.06  | -10 2            | 14 O.SS                          | ·50               | - 10  | - 100  | -5.0                  | W                             |               | -5.0           | Ħ                 |       | N                         | D             | - 15         |                           | ,                   | - 10                     |
| 37.20.22   | - 10             | D N                              | -50               | - 10  | - 100  | .5.0                  | .#                            |               | -3.0           | ×                 |       | N                         | D             | - 15         | - 20                      | )                   | -10                      |
| STATION  | TENTHIO          | и гоного:                        | SCUTH             | ION HEH<br>ALPHA  | HCH H  | II HCII<br>ELTA GAMMA | HEPTACH                       | CIII          |                | LORO              | ALAT  | HION ME                   | THION         | OXYCH        |                           | EX HO               | LIHATE                   |
| 105.32.00  | H                | N                                | N                 | н   | H  | N N                   | N                             |               | N              | N.                | Ħ     |                           | N             | N            |                           | N                   | N                        |
| 19.10.06   | 11               | -5                               | н                 | -2.0  | ·10 -  | .0 -2.0               | ٠5                            |               | -              | 2.0               | H     |                           | Ħ             | .30          |                           |                     | R i                      |
| 19.10.06   | W                | - 5                              | N                 | 5.0   | - 10 -   | 2.0 -2.0              | -5                            |               | -              | 2.0               | H     |                           | H             | - 30         |                           |                     | H                        |
| 37.20.22   | Ħ                | .5                               | H                 | .2.0  | · 10 · 2   | .0 -2.0               | · 5                           |               | .5             | 5.0               | , н   |                           | N             | .30          | 2                         |                     | <del></del>              |
| STATION  | NETROFE          | HONACIIL                         | TRA<br>OR NON     |   | MITE ORG   | ANO O                 | KYCHLORD/                     | HE PAR        |                | PARATHI<br>METHYL | DN PI | 242 1248                  | PCB<br>3 1254 | 1260         |                           |                     |                          |
| 05.32.00   | H                | H                                |                   | H   | N  | N                     | N                             |               | K              | Ħ                 |       | H N                       | N             |              | H                         | ₩,<br>•5            |                          |
| 17.10.06   | - 10             | .5                               |                   | 12.0  | H  | N                     | .5                            |               | - 10           | -10               |       | 50 -50                    |               | -50          | 64<br>D                   | .5                  |                          |
| 19.10.06   | - 10             | .5                               |                   | 6.3   | H  | N                     | ٠ <u>5</u>                    |               | - 10           | -10               |       | 50 -50                    |               | -50          | _                         | -                   |                          |
| 37.20.22   | .10              | .5                               |                   | .5.0  | N  | N                     | -5                            |               | -10            | •10               |       | 50 -50                    |               | 50           |                           | ·5                  |                          |
|  | PENTA            |                                  | THANE             | PHENKAPI  | OH PHORA   | TE PROHAM             | DE RONNE                      | L SIMA        | ZIHE SI        | ROBANE '          | ICE 1 | ETRADII                   | ON TO         | XAPHEI       | NE # PE                   | AKS>51<br>ETHYL     | FB ETHER                 |
| STATION  | CHEOKON          |                                  |                   |   |  | N                     | M                             |               | •              | N                 | Ħ     | N                         |               | H            |                           | H                   |                          |
| STATION  | N N              |                                  | N                 | N   |  |                       | -5                            | 1             | ł              | - 200             | H     | · 20                      |               | 890          |                           | M                   |                          |
| STATION<br>05.32.00<br>19.10.06                                    | N<br>N           |                                  | 150               | - 25  | -60  |                       |                               |               |                |                   |       |                           |               | -100         |                           | N                   |                          |
| STATION<br>05.32.00<br>19.10.06<br>19.10.06                        | N<br>N<br>H      |                                  | 150<br>150        | - 25<br>- 25  | -60<br>-60   | i ii                  | - 5                           | i             | 4              | 200               | Н.    | 50                        |               |              | .'                        |                     |                          |
|  | N<br>N           |                                  | 150               | - 25  | -60  | i ii                  |                               |               | 4              | - 200<br>- 200    | H .   | 20                        |               | - 100        | <i>:</i>                  | N                   |                          |
| STATION<br>05.32.00<br>19.10.06<br>19.10.06                        | N<br>N<br>N      | EAKS >5P                         | 150<br>150<br>150 | - 25<br>- 25<br>- 25                                    | -60<br>-60<br>-60<br>8912<-8                                       | i ii                  | - 5                           | · 1           | ₹<br>          | - 500             |       |                           | ····          | -100         | TETRA<br>CHLORO<br>PRENOL | DIC                 | HLORO<br>IZO<br>NONE P,P |
| STATION  05.32.00  19.10.06  19.10.06  37.20.22                    | H<br>H<br>H<br>H | EAKS >5P                         | 150<br>150<br>150 | -25<br>-25<br>-25<br>-25<br># PEAK<br>P 15X (           | -60<br>-60<br>-60<br>8912<-8                                       | 'Z,4-D                | -5<br>-5<br>2,4-D             | · 1           | ₹<br>          | - 500             |       | ·20<br>7,4-0              | ····          | -100         | CHLORO                    | DIC                 | 120                      |
| STATION<br>05.32.00<br>19.10.06<br>19.10.06<br>37.20.22            | H<br>H<br>H<br>H | EAKS >SP<br>6% ETHYL<br>1ER      | 150<br>150<br>150 | -25<br>-25<br>-25<br>-25<br># PEAK<br># 15% (<br>ETHER  | -60<br>-60<br>-60<br>5 >50PB<br>ETHYL                              | Z,4-D<br>ACID         | 2,4-D<br>ISOBUTYL             | . ESTER       | ₹<br>          | -200<br>TYL ESTI  |       | ·20<br>7,4-0              | YL ES         | -100         | CHLORO<br>PHENOL          | DIC                 | IZO<br>NOME P,P          |
| STATION  05.32.00  19.10.06  19.10.06  37.20.22  STATION  05.32.00 | H<br>H<br>H<br>H | EAKS >SP<br>5% ETHYL<br>IER<br>N | 150<br>150<br>150 | -25<br>-25<br>-25<br>-25<br># PEAK:<br># 15%  <br>ETHER | -60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60<br>-60 | 7,4-D<br>ACID         | -5<br>-5<br>2,4-0<br>ISOBUTYL | . ESTER       | ₹<br>          | 200<br>TYL ESTI   |       | ·20                       | YL ES         | -100         | CHLORO<br>PHENOL          | DIC                 | NONE P,P                 |

N = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

1983 ORGANIC CHEMICALS IN SOIL, SEDIMENT OR WATER SAMPLES (ppb, wet weight)

| STATION<br>NUMBER | STATION<br>NAME                         |                 |         | TYPE     | SAMPLE<br>Date |        | CHLOR-<br>BENSIDE | ALPHA ·<br>CHLORDENE | CIS:<br>CHLORDANE |
|-------------------|---|-----------------|---------|----------|----------------|--------|-------------------|----------------------|-------------------|
| 513.52.01         | CLEAR LAKE/LO                           | WER LAKE        |         | SED      | 83-08-17       |        | N N               | И                    |                   |
| 513.52.15         | CLEAR LAKE/SU                           | ILFUR BANK MINE |         | SED      | 83-08-17       |        | N                 | N                    | N                 |
| 513.52.16         | CLEAR LAKE/RA                           | TILESNAKE ISLE  |         | SED      | 83-08-17       |        | N                 | N                    | N                 |
| 513.52.19         | CLEAR LAKE/RO                           |                 |         | SED      | 83-08-16       |        | N                 | H                    | N                 |
| STATION           | GANMA                                   | TRANS           | OXY     | CIS      | TRANS          | TOTAL  | CHLOR             |                      |                   |
| NUMBER            | CHLOR                                   | CHLOR           | CITLOR  | NONA     | NONA           | CHLOR  | PYRIFOS           | DAC                  | OP                |
|                   | DENE                                    | DANE            | DANE    | CHLOR    | CHLOR          | DANE   |                   | THAL                 | 1000              |
| 513.52.01         | N                                       | H               | N       | N        | H              | N      | N                 | N                    | H                 |
| 513.52.15         | H                                       | N               | N       | N        | N              | N      | N                 | N                    | 'n                |
| 513.52.16         | N                                       | N               | N       | N        | N              | N      | Ń                 | N                    | Ñ                 |
| 513.52.19         | N                                       | N               | N       | R        | N              | Ñ      | H                 | N                    | Ñ                 |
| STATION           | rr                                      | OP              | ΡÞ      | PP       | PP             | OP     | PP                | TOTAL                | DIA               |
| NUMBER            | מססי                                    | 'DOE            | 'DDE    | ODMU     | DDMS           | TOOT   | 1001              | DDT                  | ZIHON             |
| 513.52.01         | , N                                     | N               | N       | N        | N              | Ħ      | И                 | N                    | N                 |
| 513.52.15         | Ħ                                       | N .             | N       | H        | " N            | H      | H                 | N                    | H                 |
| 513.52.16         | Н                                       | N               | N       | N        | N              | N      | N                 | N                    | H                 |
| 513.52.19         | N                                       | N               | N       | N        | W              | N      | · N               | N                    | Ħ                 |
| STATION           |   | ENDO            | ENDO    | Elibo    | TOTAL          |        |                   |                      |                   |
| NUMBER            | DIELDRIN                                | SULFAN          | SULFAN  | SULFAN   | ENDO           |        | ALPHA             | BETA                 | GAHHA             |
|                   |   | 1               | 11      | SULFATE  | SULFAN         | ENDRIM | HCH               | HCH                  | HCH               |
| 513.52.01         | N                                       | N               | -1.0    | -2.0     | D              | H      | N                 | N                    | N                 |
| 513.52.15         | N                                       | N               | -1.0    | -2.0     | D              | W      | N                 | N                    | W                 |
| 513.52.16         | N                                       | N               | -1.0    | -2.0     | D              | H      | N                 | 11                   | K                 |
| 513.52.19         | N                                       | N               | -1.0    | -2.0     | D              | N      | H                 | H                    | N                 |
| STATION           | *************************************** | HEPTA           | HEXA    |          |                |        |                   | <del>~~~~~</del>     |                   |
| NUMBER            | DELTA                                   | CHLOR           | CHLORO  | PCB      | PCB            | PCB    | TOTAL             | PARA                 | AXOT              |
|                   | HCH                                     | EPOXIDE         | BENZENE | 1242     | 1248           | 1254   | PCB               | THION                | PHEN              |
| 513.52.01         | N                                       | н               | N       | H        | N              | N      | N                 | N                    | N                 |
| 513.52.15         | N                                       | N               | Ħ       | ï        | Ĥ              | Ň      | Ü                 | N.                   | N N               |
| 513.52.16         | N                                       | N               | Ħ       | ,,<br>14 | ห              | N      | Ä                 | N                    | N<br>N            |
| 513.52.19         | 11                                      | N               | Ĥ       | Ñ        | พ              | Ä      | Ñ                 | · · "                | ×                 |

N = not analyzed. SED = sediment.

<sup>· =</sup> below indicated detection limit. COL = adsorbent resin column.

D = below detection limit (no limit indicated). H2O = water sample.

1984 ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATION   | STAT  | ION NAME                                     |   |  | MHON<br>SHANE                              |  |                                | TISŠUE<br>TYPE                                | SAMPLE<br>DATE   | ALDRIN  | ATRAZI                                | HE   | BENE   | FIR   | CARBAR  |   | CARBO<br>PHENO<br>THIONI             | •            | DEC |
|---|---|--|---|--|--|--|--------------------------------|---|--|---|---------------------------------------|--|--|---|---|---|--------------------------------------|--------------|-----|
| 109.10.10   | HAD   | RIVER  |   | S1   | ULPIN                                      |  |                                | FLESH   | 84-08-27   | N   | H                                     |  | ĸ  |   | H   |   | N                                    |              | H   |
| 107.10.10   |   | RIVER  |   |  | JCKER                                      |  |                                | FLESH   | 84-08-27   | W   | H                                     |  | 11   | )   | H   |   | H                                    |              | H   |
| 111.12.01   |   | R / SCOTTA                                   |   |  | RITJU                                      |  |                                | FLESH   | 84-08-28   | -5 ~  | N                                     |  | -5   | }   | 14  |   | - 50                                 |              | ٠5  |
| 517,10.06   |   | ER BYPASS #                                  |   |  | INNHEL C                                   | ATFISH                                 |                                | FLESH   | 84-08-02   | -5  | H                                     |  | . 5  | •   | N   |   | - 20                                 |              | . 5 |
| 520.11.03   |   | SA DRALH/KHI                                 | CUTE LAND                               |  | RP   |  |                                | FLESH   | 84-08-14   | - 5   | ×                                     |  | - 5  |   | H   |   | - 20                                 |              | ٠,  |
| 520.11.03   |   | SA DRAIN/KNI                                 |   |  |  |  |                                | FLESH   | 84 - 08 - 14   | ٠,5   | Ĥ                                     |  | - 5  | ;   | N   |   | - 50                                 |              | . 5 |
|   |   | SA DRAIN/KHI                                 |   |  |  |  |                                | FLESH   | 84-08-14   | - 5   | 1                                     |  | - 5  | ,   | H   |   | - 50                                 |              | . 5 |
|   |   | . RIVER                                      | GHIS CHAO                               |  |  |  |                                | FLESH   | 84 · 07 · 16   | 5   | 11                                    |  | - 9  | 5   | N   |   | - 50                                 |              |     |
| 526.42.02<br>526.42.02  |   |  |   |  | JCKER<br>JCKER                             | . •                                    |                                | FLESH   | 84-07-16   | -5  | H                                     |  | 5  | 5   | H   |   | - 50                                 |              |     |
| · <del>···························</del>  | CHLOR   | ALPHA  | CIS                                     | GAMMA  | TRAN                                       |  |                                |   | EB CHLOR<br>PYRIFOS  | DACTHAL   |                                       | DDD<br>D, P  | 000<br>P,P                                     |   | DDE D   |   | DDHU P.P                             |              |     |
| STATION   | BENSI   | DE CHLORDENE                                 | CHLORDANE                               | CIILORDE   | HE CHEC                                    | JRUANE                                 | CHLOX                          | JAKE  | PIXITUS  |   |                                       |  | -,,  |   |   | <u></u>                                   |                                      |              |     |
| 107.10.10   | 11  | H  | H                                       | N  |  | N                                      | H                              | H   | H  | N.  | H                                     | N  | Ħ  | Ħ   | ĸ   | H   | M                                    | H            |     |
| 107.10.10   | N   | H  | 11                                      | N  |  | N                                      | Ħ.                             | H   | Ħ  | H   | H                                     | N  | N  | ×   | N   | N   | N                                    | H            |     |
| 111.12.01   |   | -5.0   | -5.0                                    | . 5  |  | 5.0                                    | D                              | -75   | - 10   | 5.0   | •••                                   |  |  | · 10  | -5.0  |   |                                      | - 10         |     |
| 519.10.06   | - 5   | .5   | 14.0                                    | - 5  |  | 3.5                                    | 49.8                           | -75   | - 10   | -5  | N :                                   | 55.  | 140  | 19  | 410.0   | -30                                       | - 15                                 | - 10         |     |
|   | -5  | .5   | -5.0                                    | - 5  |  | .0                                     | n n                            | - 75  | -10*   | -5  | N S                                   | 15   | 62   | 17  | 360.0   | - 30                                      | 22 -                                 | 10           |     |
| 520.11.05   |   |  |   | -5   | . 5  |  | 21.0                           | -75   | - 10   | .5  |                                       |  |  | 10  | 300.0   |   | 18 -                                 |              |     |
| 520.11.03   |   | -5   | 7.0                                     | -5   |  | .8                                     | 40.9                           | -75   | - 10<br>- 10   | 5   |                                       |  |  | 19  | 420.0   |   | 23 .                                 |              |     |
| 520.11.03   |   | - 5  | 9.2                                     |  |  |  |                                |   |  | -   |                                       | -  |  |   |   |   | _                                    | - 10         |     |
| 526.42.02   | ٠5  | - 5  | .5.0                                    | · <u>\$</u>  |  | .0                                     | D                              | - 75  | - 10   | - 5   | N -1                                  |  |  | 10  | 8.9   |   |                                      | - 10<br>- 10 |     |
| 526.42.02   | ٠5  | -5   | -5.0                                    | -5   | • • •                                      | .0                                     | D                              | -75   | -10  | -5  | N -1                                  |  | -10 -  | 10  | 8.9   | . 30                                      | •15                                  | . 10         |     |
| STATION   |   | TOTAL DEF DI                                 |   | 111108   | COFOL D                                    | IELORII                                | N DIPH                         |   | EHDO E<br>SULFAN 1 S   | HDO<br>ULFAN 11   | ENDO<br>SULFA<br>SULFA                | H E  | HDO  |   | RIN ET  | HION                                      | FENT                                 |              |     |
| 107.10.10   | · 11  | N N '  |   | н  | N.   | н                                      |                                | н   | м  | H   |                                       | K  | 11   |   | N   | N   |                                      | H            |     |
| 107.10.10   | 17  | N N  | Ĥ                                       | Ä  | W  | Ä                                      |                                | N   | Ä  | Ä   |                                       | N.   | . #  | •   | Ä   | N.  |                                      | M            |     |
| 111.12.01   |   | D N  | -50                                     | - 15   | - 100                                      | -5.0                                   |                                | N   | .5   | Ä   |                                       | 11   | Ö  |   | · 15  | -20                                       | - †                                  | ñ            |     |
| 519,10.06   |   | 640.0 N                                      | -50                                     |  |  |  |                                |   | -  | -70   | -8                                    |  | 26.0   |   | - 15  | -20                                       | - ;                                  |              |     |
|   |   | 040.0 N                                      | - 30                                    | · 15   | 190  | 15.                                    | U                              | N   | 26.0   |   |                                       |  |  |   |   |   |                                      |              |     |
| 520.11.03   | -10 6   | 476.0 H                                      | -50                                     | - 15   | · 100                                      | 5.4                                    | •                              | Ħ   | 7.7  | -70   | - 85                                  |  | 7.7  |   | 15  | - Z0                                      | -1                                   |              |     |
| 520.11.03   | -10   | 415.0 N                                      | -50                                     | - 15   | - 100                                      | 7.1                                    | 7                              | H   | 7.B  | -70   | -6                                    | 5  | 7.8  | ,   | - 15  | - 20                                      | •1                                   | 0            |     |
| 520.11.03   | 32 6  | 652.0 N                                      | -50                                     | - 15   | - 100                                      | -5.0                                   | )                              | Ħ   | 14.0   | • 70  | - 6:                                  | 5  | 14.0   | , .   | 15  | - 50                                      | - 1                                  | Ü            |     |
| 526.42.02   |   | 8.9 N  | -50                                     | - 15   | - 100                                      | -5.0                                   |                                | N   | -5.0   | H   | ٠,                                    | N .  | D  |   | 15  | - 20                                      | -1                                   | θ.           |     |
| 526.42.02   |   | 8.9 N  | -50                                     | - 15   | - 100                                      | -5.0                                   |                                | H   | -5.0   | Ĥ   |                                       | N  | D  |   | 15  | - 20                                      | -1                                   | 0            |     |
|   |   |  |   |  |  | *****                                  | HEDIA                          | CHLOR H                                       | EPIA HEX   | A HALI  | ATHION                                |  |  | HETH  |   | IREX                                      | MOL 1 NA                             | ITE          |     |
| STATION   | FERTIL  | ION FONUTOS                                  |   | EPHA BET/  | HICH<br>A DELTA                            |  | ner ra                         | El  | HLOR CHL   |   |                                       |  | 1001   |   | HLOR  |   |                                      |              |     |
|   | rentiii<br>N  | 10N FOHUTOS                                  |   |  |  |  |                                | El  | HLOR CHL   |   | N                                     |  | H  | •   | N   | Ħ   | , N                                  | -            |     |
| 109.10.10   | <del></del>   |  | Al                                      | PIIA BET   | A DELIA                                    | GAMMA                                  |                                | CI<br>EI                                      | HLOR CHL<br>POXIDE BEN<br>N  | ZENE  |                                       |  | H<br>H   | •   | H<br>N  | Ħ   |                                      | -            |     |
| 109.10.10<br>109.10.10  | H   | 11   | N<br>H                                  | H H  | N DELTA                                    | GAMHA<br>H                             | N-man .                        | N CI  | HLOR CHL<br>POXIDE BEN<br>N<br>N   | ZENE<br>H   | N                                     |  | H  |   | N<br>N<br>15  | 10  | H<br>H<br>N                          |              |     |
| 109.10.10<br>109.10.10<br>111.12.01   | H<br>H  | 1)<br>H                                      | N<br>H<br>H -                           | H H  | N DELTA                                    | GAMMA<br>N<br>N                        | •                              | EI<br>N<br>H                                  | HLOR CHL<br>POXIDE BEN<br>N<br>N   | ZENE<br>H<br>N<br>.0  | N<br>N                                |  | H<br>H   | •   | N<br>N<br>15  | Ħ   | , N                                  | <u> </u>     |     |
| 109, 10, 10<br>109, 10, 10<br>111, 12, 01<br>519, 10, 06  | Н<br>Н<br>И   | 11<br>N<br>-5<br>-5                          | N<br>H<br>H                             | H H N 2.0 -10  | R<br>N<br>-5                               | #<br>#<br>#<br>-2.0                    | •                              | EI<br>N<br>N<br>K<br>S                        | HLOR CHL<br>POXIDE BEN<br>N<br>N<br>-5 -2  | ZENE<br>H<br>N<br>. D   | N<br>N<br>N                           |  | H<br>H   |   | N<br>N<br>15  | 10  | H<br>H<br>N                          |              |     |
| 109, 10, 10<br>109, 10, 10<br>111, 12, 01<br>519, 10, 06<br>520, 11, 03   | H<br>H<br>M<br>M  | 11<br>N<br>-5<br>-5                          | N<br>H<br>H<br>N                        | H H H 2.0 -10 2.0 -10 2.0 -10  | N -5 -5 -5                                 | # # -2.0<br>-2.0                       | •                              | EI<br>N<br>N<br>S<br>S                        | HLOR CHL<br>POXIDE BEN<br>N<br>N<br>-5 -2  | ZENE<br>N<br>. O<br>. O   | N<br>N<br>N                           |  | H<br>H   | ·<br>-1   | N<br>N<br>15<br>5   | - 10<br>- 10                              | H<br>H<br>N                          | -            |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03   | И<br>И<br>И<br>И<br>И   | N<br>N<br>-5<br>-5<br>-5                     | N<br>H<br>H<br>N<br>N                   | H H H 2.0 -10 2.0 -10 2.0 -10 2.0 -10  | N N -5 -5 -5 -5                            | H H -2.0 -2.0 -2                       |                                | N N S S S S S S S S S S S S S S S S S S       | N N -5 -2 -5 -2 -5 -2  | ZENE<br>H<br>I.O<br>.O<br>.O  | N<br>N<br>N                           |  | H<br>H   | ·<br>-1<br>-1   | N<br>N<br>15<br>5   | -10<br>-10<br>-10                         | H<br>H<br>N                          |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03  | H<br>H<br>H<br>H<br>H<br>H  | 1)<br>N<br>-5<br>-5<br>-5                    | N H                                     | N H N 2.0 -10 2.0 -10 2.0 -10 2.0 -10 2.0 -10 2.0 -10  | R<br>N -5<br>-5<br>-5                      | GAMMA  # # -2.0 -2.0 -2                | •                              | N H 5 5 5 5 5 5 5 5 5                         | N N S S S S S S S S S S S S S S S S S S  | ZENE<br>H<br>N<br>.0<br>.0<br>.0  | N<br>N<br>N                           |  | H<br>H   | ·<br>·1<br>·1<br>·1   | N<br>N<br>15<br>5<br>5  | . 10<br>- 10<br>- 10<br>- 10              | H<br>H<br>H<br>H                     |              |     |
| 109,10.10<br>109,10.10<br>111.12.01<br>519,10.06<br>520.11.03<br>520.11.03<br>520.11.03   | И<br>И<br>И<br>И<br>И   | N<br>N<br>-5<br>-5<br>-5                     | N N N N N N N N N N N N N N N N N N N   | H H H 2.0 -10 2.0 -10 2.0 -10 2.0 -10  | N N -5 -5 -5 -5                            | H H -2.0 -2.0 -2                       | •                              | N N S S S S S S S S S S S S S S S S S S       | N N -5 -2 -5 -2 -5 -2  | ZENE<br>N<br>N<br>.0<br>.0<br>.0  | N<br>N<br>N<br>M                      |  | H<br>H   | ·<br>·1<br>·1<br>·1<br>·1   | N<br>N<br>15<br>5<br>5<br>5   | 10<br>-10<br>-10<br>-10<br>-10            | H<br>H<br>H<br>H                     |              |     |
| 109, 10, 10<br>109, 10, 10<br>111, 12, 01<br>519, 10, 06<br>520, 11, 03<br>520, 11, 03<br>520, 11, 03<br>526, 42, 02  | H<br>H<br>H<br>H<br>H   | 11 N .5 .5 .5 .5 .5 .5 .5 .5 .5              | N N N N N N N N N N N N N N N N N N N   | N N N N 2.0 -10 -10 -10 -10 -10 -10 -10 -10 -10 -1   | R<br>N -5<br>-5<br>-5<br>-5                | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 |                                | N H S S S S S S S S S S S S S S S S S S       | HLOR CHL POXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 | ZENE N N .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0   | H<br>H<br>H<br>H<br>H<br>H<br>H       | H<br>H<br>H<br>H<br>H  | H<br>H<br>H<br>I<br>I<br>I<br>I<br>V           | - 1<br>- 1<br>- 1<br>- 1<br>- 1   | N N N 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5  | N - 10 - 10 - 10 - 10 - 10 - 10 - 10      | H<br>H<br>H<br>H<br>H<br>H           |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>520.42.02<br>526.42.02   | H<br>H<br>H<br>H<br>H   | 11 N .5 .5 .5 .5 .5 .5 .5 .5 .5              | N N N N N N N N N N N N N N N N N N N   | N N N N 2.0 -10 -10 -10 -10 -10 -10 -10 -10 -10 -1   | R N -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 |                                | N H S S S S S S S S S S S S S S S S S S       | HLOR CHL POXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 -7 -2 | ZENE  H N .0 .0 .0 .0 .0 .0 .0 .0 .0  | N N N N N N N N N N N N N N N N N N N | H<br>H<br>H<br>H<br>H  | H H H H H H H H H H H H H H H H H H H          | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>PCB<br>1260                                     | H N N N N N N N N N N N N N N N N N N N   | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>H<br>H<br>H<br>H<br>H<br>H      |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>526.42.02<br>526.42.02   | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>TROF  | 11 N -5 -5 -5 -5 -5 -5 -5 -5                 | N N N N N N TRANS                       | N N N N 2.0 -10 2.0 -1 | N N -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | ACHFOS                         | N H S S S S S S S S S S S S S S S S S S       | HLOR CHLIPOXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7  | ZENE N N .0 .0 .0 .0 .0 .0 .0 .1 .0 .0 .0 .1 .0 .1 .0 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 | N N N N N N N N N N N N N N N N N N N | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | H H H H H H H H H H H H H H H H H H H          | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>PCB 1260  | H<br>N<br>15<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>7<br>7<br>7<br>7<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8 | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H |              |     |
| 109, 10, 10<br>109, 10, 10<br>111, 12, 01<br>111, 12, 01<br>520, 11, 03<br>520, 11, 03<br>526, 42, 02<br>526, 42, 02<br>51A110N   | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>TROF                                      | 1) N -5 -5 -5 -5 -5 -5 -5 -5 -8 HONACHLO     | N H H H H H H H H H H H H H H H H H H H | N N N N N N N N N N N N N N N N N N N  | N N -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | ACHFOR                         | N H S S S S S S S S S S S S S S S S S S       | HLOR CHLIPOXIDE BEN  N N N C C C C C C C C C C C C C C C C   | N N O O O O O O O O O O O O O O O O O O   | N N N N N N N N N N N N N N N N N N N | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | H H H H H H H H H H H H H H H H H H H          | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-     | H<br>N<br>55<br>55<br>55<br>TOTAL<br>D PCB  | N -10 -10 -10 -10 -10 -10 -10 -10 -10 -10 | H<br>H<br>H<br>H<br>H<br>H<br>H      |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>526.42.02<br>510.10<br>510.10<br>510.10<br>510.10  | H<br>H<br>H<br>N<br>N<br>H<br>H<br>H<br>TROF  | N N .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5   | N H H H H H H H H H H H H H H H H H H H | H H H H H 2.0 - 10 2.0 - 10 2.0 - 10 2.0 - 10 2.0 - 10 2.0 - 10 2.0 - 10 3. | R N -5 -5 -5 -5 -5 -5 -5 -7 ORGANO ARSENIC | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | ACHFOS                         | CI EI N H S S S S S S S S S S S S S S S S S S | HLOR CHLIPOXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -7 -7 -2 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7                               | N N O O O O O O O O O O O O O O O O O O   | N N N N N N N N N N N N N N N N N N N | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | H H H H H H H H H H H H H H H H H H H          | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>PCB 1260  | H<br>N<br>15<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>7<br>7<br>7<br>7<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8 | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>H<br>H<br>H<br>H<br>H<br>H      |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>526.42.02<br>51A110N<br>109.10.10<br>109.10.10   | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H | N N N -55 -55 -55 -5 HONACHLO N N N -55 -7.3 | N H H H H H H H H H H H H H H H H H H H | N N N N N N N N N N N N N N N N N N N  | N N -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | YCHLOS<br>H<br>N<br>.5         | CI EI N M M 5 5 5 5 5 5 5 5 5 E T ROANE PA    | HLOR CHL<br>POXIDE BEN<br>N N N N N N N N N N N N N N N N N N N  | ZEME  H N .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0  | N N N N N N N N N N N N N N N N N N N | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | PCB 1254 H M 50 93                             | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>PCB<br>1266<br>H W                              | H N 5 5 5 5 5 5 5 5 5 7 101AL D PCB H N D PCB 93  | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>N<br>N<br>H<br>H<br>H<br>H<br>H |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>526.42.02<br>526.42.02<br>51A110N   | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H | N N S S S S S S S S S S S S S S S S S S      | N                                       | N N N N N N N N N N N N N N N N N N N  | N N -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | YCHLOR<br>N<br>N<br>-5<br>-5.6 | CIEL N H H S S S S S S S S S S S S S S S S S  | HLOR CHLIPOXIDE BEN  N N N N N N N N N N N N N N N N N N   | ZENE  H N .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0  | N N N N N N N N N N N N N N N N N N N | 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | PCB 1254 N N N N N N N N N N N N N N N N N N N | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-50<br>-50  | N N N N N N N N N N N N N N N N N N N   | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>H<br>H<br>H<br>H<br>H<br>H      |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>526.42.02<br>SIATION<br>109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03              | H H H H H H H H H H H H H H H H H H H   | N N N S S S S S S S S S S S S S S S S S      | N N N N N N N N N N N N N N N N N N N   | N N N N N N N N N N N N N N N N N N N  | N N S S S S S S S S S S S S S S S S S S    | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | YCHLON                         | CIEL N R R S S S S S S S S S S S S S S S S S  | HLOR CHL<br>POXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 RATHION PA HYL ME  N -10 -10 -10   | ZENE  H N .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0  | N N N N N N N N N N N N N N N N N N N | TO 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | PC8 1254 H # 750 93 -50 80                     | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-50<br>-50<br>-50 | H N 15 5 5 5 5 5 5 5 5 5 6 7 TOTAL D PCB H H D PCB 93 0 134   | N -10 -10 -10 -10 -10 -10 -10 -10 -10 -10 | H<br>N<br>N<br>H<br>H<br>H<br>H      |              |     |
| 109.10.10 109.10.10 111.12.01 519.10.06 520.11.03 520.11.03 520.11.03 526.42.02  STATION 109.10.10 109.10.10 11.12.01 11.12.01 11.12.01 120.11.03 120.11.03                                   | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H | N N S S S S S S S S S S S S S S S S S S      | N H H H H H H H H H H H H H H H H H H H | N N N N N N N N N N N N N N N N N N N  | N N N S S S S S S S S S S S S S S S S S    | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | YCHLOR<br>N<br>N<br>.5.6.6.    | CIEL N N N N S S S S S S S S S S S S S S S S  | HLOR CHL POXIDE BEN  N N N S -5 -2 -5 -2 -5 -2 -5 -2 -7 -2 -7 -7 -10 -10 -10 -10 -10   | XENE  H N .0 .0 .0 .0 .0 .0 .0 .0 .0 .1  RATHION H -10 -10 -10 -10 -10                          | N N N N N N N N N N N N N N N N N N N | T I I I I I I I I I I I I I I I I I I I  | PC8 1254 H M - 50 93 80 120                    | -11<br>-11<br>-11<br>-11<br>-126<br>H<br>N<br>-50<br>-50<br>54<br>72                | H N N 15 5 5 5 5 5 5 5 5 5 5 5 5 6 7 7 7 7 7 8 7 9 7 9 7 9 7 9 7 9 7 9 7 9                                  | N - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1  | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H |              |     |
| 109.10.10<br>109.10.10<br>111.12.01<br>519.10.06<br>520.11.03<br>520.11.03<br>520.11.03<br>526.42.02<br>STATION<br>109.10.10<br>109.10.10<br>111.12.01<br>111.12.01<br>111.10.01<br>111.10.01 | H H H H H H H H H H H H H H H H H H H   | N N N S S S S S S S S S S S S S S S S S      | N N N N N N N N N N N N N N N N N N N   | N N N N N N N N N N N N N N N N N N N  | N N S S S S S S S S S S S S S S S S S S    | GAMHA  # # -2.0 -2.0 -2 -2 -2 -2 -2 -2 | YCHLON                         | CI EI N N N N N N N N N N N N N N N N N N     | HLOR CHL<br>POXIDE BEN  N N -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 -5 -2 RATHION PA HYL ME  N -10 -10 -10   | ZENE  H M .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .10 .1  | N N N N N N N N N N N N N N N N N N N | TO THE STATE OF TH | PC8 1254 H # 750 93 -50 80                     | -1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-1<br>-50<br>-50<br>-50 | H N 15 5 5 5 5 5 5 5 5 5 6 7 TOTAL D PCB H H D PCB 93 0 134   | N -10 -10 -10 -10 -10 -10 -10 -10 -10 -10 | H<br>H<br>H<br>H<br>H<br>H<br>H<br>H |              |     |

N = not analyzed. - = below indicated detection limit. D = below Metection limit (no limit indicated).

 $<sup>\</sup>star$  not within northern district but within the monitoring area

1984 (continued)

| HOTTATE                | PENTA<br>CHLOROPHENOL        | PERTHAHE | PHENKAPTON                      | PHORATE | PRONANTO | RONNEL          | SIMAZIN    | STROBANE           | TCE | TETRADIFON         | TOXAPHEN | # PEAK                    | \$>\$PPB<br>THYL ETHER          |
|------------------------|------------------------------|----------|---------------------------------|---------|----------|-----------------|------------|--------------------|-----|--------------------|----------|---------------------------|---------------------------------|
| 107.10.10              | 2.6                          | N        | N                               | H       | H        | . N             | H          | H                  | N   | N                  | Ħ        |                           | N                               |
| 109.10.10              | - <u>2.6</u><br>7.2          | N        | ×                               | N       | N        | N               | H          | H                  | Ħ   | H                  | H        |                           | K                               |
| 111.12.01              | N                            | - 150    | - 15                            | - 60    | · 14     | . •5            | Ħ          | -200               | N   | - 10               | -100     |                           | W                               |
| 519,10,06              | X H                          | - 150    | - 15                            | -60     | N        | - 5             | N          | -200               | Ħ   | - to               | 450      |                           | N                               |
| 520.11.03              | # H                          | - 150    | - 15                            | -60     | H        | ٠, ح            | <i>H</i> . | ·200               | *   | -10                | -100     |                           | W                               |
| 520.11.03              | * 11                         | - 150    | · 15                            | -60     | H        | .5              | ä          | - 200              | Ä   | - 10               | -100     |                           | Ÿ                               |
| 520.11.03;             | K∙ N                         | - 150    | - 15                            | -60     | Ħ        | ٠,              | Ħ          | -200               | H   | -10                | 450      |                           | Ä                               |
| 526.42.02 <sup>°</sup> | 11                           | - 150    | · 15                            | -60     | Ħ        | - 5             | H          | - 500              | Ħ   | - 10               | -100     |                           | H                               |
| 526.42.02              | N                            | - 150    | - 15                            | -60     | Ħ        | ٠5              | Ħ          | . 200              | Ħ   | - 10               | -100     |                           | N                               |
| STATION                | # PEAKS<br>@ 6% ETT<br>ETHER |          | # PEAKS :<br>@ 15% eti<br>ether |         |          | 4-D<br>OBUTYL I |            | .4.0<br>I-BUTYL ES | TER | 7,4-D<br>ISOPROPYL | ESTER    | TETRA<br>CHLORO<br>PHENOL | DICHLORO<br>BENZO<br>PHENONE P, |
| 107.10.10              | N                            |          |                                 |         | н        |                 | И          | n                  |     |                    | N N      | 1.7                       | H                               |
| 09.10.10               | ii ii                        |          | Ħ                               |         | Ĥ        |                 | W          | ĸ                  |     |                    | H.       | 2.6                       | · N                             |
| 111.12.01              | R                            |          | N                               |         | N        | • 1             | 00         | -100               |     | -1                 | 00       | - N                       | <b>1</b>                        |
| 519.10.06              | н                            |          | H                               |         | M        |                 | 00         | - 100              | 1   | -1                 | 00       | H                         | 37                              |
| 520.11.03              | u                            |          | ü                               |         | Ñ        | • • •           |            | -100               |     |                    | 00       | u                         | N                               |
| 520.11.03              | 11                           |          | N                               |         | N        |                 | 00         | - 100              |     |                    | 00       | ü                         | H                               |
| 520.11.03              | N                            |          | Ñ                               |         | N        |                 | 00         | 100                |     |                    | 00       | ÿ                         | H                               |
| 526.42.02              |                              |          | ii.                             |         | N        |                 | 00         | - 100              |     |                    | 00       | . 11                      | tr.                             |
| 526.42.02              | 71                           |          |                                 |         |          |                 | 00         | - 100              |     |                    | 00       |                           |                                 |

N = not analyzed. - = below indicated detection limit. D = below detection limit (no limit indicated).

 $<sup>\</sup>ensuremath{\mbox{\#}}$  not within northern district but within the monitoring area .

#### 1984 ORGANIC CHEMICALS IN SOIL, SEDIMENT OR WATER SAMPLES (ppb, wet weight)

| STATION<br>NUMBER | STATION<br>NAME          |                        |                           | TYPE                        | SAMPLE<br>Date          |                        | CHLOR<br>BEN<br>SIDE | ALPHA<br>CHLOR<br>DENE | C18<br>CHLOR<br>DANE |
|-------------------|--------------------------|------------------------|---------------------------|-----------------------------|-------------------------|------------------------|----------------------|------------------------|----------------------|
| - 520.11.03       | COLUSA DRAIN             | /KNIGHTS LANDIN        | g <b>-</b>                | SED                         | 84-11-20                |                        | ·0.5                 | .0.5                   | ·0.5 —               |
| STATION<br>NUMBER | GAIMA<br>CIII.OR<br>DENE | TRANS<br>CHLOR<br>DANE | OXY<br>CHLOR<br>DANE      | CTS<br>NONA<br>CHLOR        | TRANS<br>NONA<br>CHLOR  | TOTAL<br>CHLOR<br>DANE | CHLOR<br>PYRIFOS     | DAC<br>THAL            | 0P<br>1000           |
| - 520.11.03       | -0.5                     | .0.5                   | -0.5                      | ∙0.5                        | -0.5                    | D                      | -10                  | .0.2                   | -1                   |
| STATION<br>HUMBER | PP<br>1000               | 0P<br>'DDE             | PP<br>'DDE                | PP<br>100MU                 | PP<br>'DDHS             | OP                     | PP<br>1001           | TOTAL<br>DDT           | DIAZINON             |
| 520.11.03         | 5                        | - 1                    | 8.5                       | ·2.                         | • 3                     | -1,                    | -1                   | 4.6                    | · 5                  |
| STATION<br>NUMBER | DIELDRIN                 | ENDO<br>SULFAN<br>1    | ENDO<br>SULFAN<br>11      | ENDO<br>SUL FAN<br>SUL FATE | TOTAL<br>ENDO<br>SULFAN | ENDRIN                 | ALPRA<br>HCR         | BETA<br>HCH            | GANHA<br>RCH         |
| 520.11.03         | -0.5                     | .0.5                   |                           | . N                         | D                       | - 15                   | -0,2                 | •1                     | .0.2                 |
| STATION<br>NUMBER | DELTA<br>IICII           | CIILOR                 | HEXA<br>CHLORO<br>BENZENE | PC8<br>1242                 | PC8<br>1248             | PC9<br>1254            | TOTAL .              | PARA<br>THION          | TOXA<br>PHENE        |
| 520.11.03         | -0.5                     | 0.5                    | -0.2                      | · 5                         | -5                      | .5                     | D                    | -1                     | -10                  |

<sup>\*</sup> NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

## TOXIC SUBSIANCES MONITORING PROGRAM SUMMARY OF 1985 DATA: ORGANIC CHEMICALS IN FISH (ppb, wet weight)

| STATEON  | STATI                        | ION HAVE                   |                            |                        |                   | COSHOS                                  | HAME |                      |            | 115<br>11         |                             | SAMPLE<br>DATE                               | Aldrin                     | Eliter-<br>dine              | cls.<br>Chlor-<br>dane     | gamaa<br>Chlor<br>dene     |                  | ėnš-<br>lor-<br>ne     | cis.<br>Hona<br>chlo       |                              | chier                          | fotal<br>Chior-<br>dane  |
|--|------------------------------|----------------------------|----------------------------|------------------------|-------------------|---|------|----------------------|------------|-------------------|-----------------------------|--|----------------------------|------------------------------|----------------------------|----------------------------|------------------|------------------------|----------------------------|------------------------------|--------------------------------|--------------------------|
| 167.16.16<br>107.10.10<br>\$20.11.01<br>\$20.11.03       | COLLISA DR                   | !<br>AIH/KHIG              |                            |                        |                   | SCULFIN<br>SUCKER<br>CHANNEL<br>WITTE C | CAI  |                      | ı          |                   |                             | 08/29/85<br>03/29/85<br>07/08/85<br>07/06/85 | HĀ<br>NA<br>15.<br>< 3.    | #A<br>#A<br>4 5.<br>4 5.     | RÃ<br>MA<br>← 5.0<br>← 5.0 | ₩A<br>₩A<br>< 3.0<br>< 3.0 | •                |                        | RA<br>NA<br>< 5.0<br>< 5.0 |                              | #A<br>#A<br>< \$.0<br>< \$.0   | HA<br>HA<br>5.7<br>8.6   |
| STATION  | Eliter:<br>pyr Hes           | Dac Hint                   | 0,p'<br>000                | p.p'                   | o.p               |   | bo   |                      | p,p'       | P.P<br>DDH        |                             | total<br>bot                                 | Blazinon                   | Dicolol<br>(Kel·<br>thene)   | benzo-<br>phenon           |                            | ।सः              | i End<br>aut           |                            | Endo:<br>sul fan             | Enclo-<br>sulfan<br>Sulfate    | intel<br>Endo-<br>sultan |
| 107, 10, 10<br>107, 10, 10<br>320, 11, 03<br>320, 11, 03 | NA<br>NA<br>< 10.<br>< 10.   |                            | HĀ<br>HA<br>< 10.<br>< 10. | НА<br>НА<br>75.<br>65. | HA<br>+A<br>< 10. |   |      | A<br>D.              |            |                   | #/<br>4 30.<br>4 30.        | NA<br>503.0                                  |                            | NA<br>NA<br>4 100.<br>4 100. | HA<br>HA<br>HA             |                            | ₩A<br>₩A<br>25.0 | ,                      | NA<br>KA<br>B.O<br>5.0     | HA<br>HA<br>← 70:0<br>← 70.0 | ₩A<br>₩A<br>< 85.0<br>< 85.0   | . WA<br>WA<br>8.0<br>NO  |
| STATION  | Eirle lii                    | ech<br>ech                 | reta-<br>nce               | đei<br>nc              | 11                | ganma-<br>HCH<br>(t Indane)             |      | Hepi<br>Ehte<br>Epoi | <b>9</b> F |                   | 8 -<br>0 F (1) +<br>2 (1) + | Ethyl<br>Para-<br>thlon                      | FC8<br>1248                | PCD<br>1254                  | PCB<br>1260                | Total<br>PCB               | ch               | nta-<br>lare-<br>ienol | chl                        | ore-<br>riol                 | loxaphene                      | Chem<br>Group<br>A       |
| 107, 10, 10<br>107, 10, 10<br>520, 11, 03<br>520, 11, 03 | HA<br>HA<br>< 15.0<br>< 15.0 | 44<br>44<br>< 2.0<br>< 2.0 | #A<br>#A<br>< 10.<br>< 10. | ¢ 5                    |                   | NA<br>NA<br>4 2.0<br>4 2.0              |      | #/<br>< 5.           | .0         | 4 5<br>4 5<br>4 4 | A<br>. D                    | #A<br>#A<br>< 10.<br>< 10, -                 | HĀ<br>HĀ<br>< 30.<br>4 30. | HA<br>NA<br>< 50.<br>< 50.   | NA<br>NA<br>< 50:<br>< 50  | NA<br>NA<br>NO             |                  |                        |                            |                              | HA<br>HA<br>< 100.0<br>< 100.0 | HA<br>HA<br>53.7<br>15.0 |

#### TOXIC SUBSTANCES MONITORING PROGRAM SUMMARY OF 1985 DATA: ORGANIC CHEMICALS IN FISH (ppb, lipid weight)

| \$1AT104                 | BIATE                      | м илие                           |                |                       | OFFICE N       | AHE                        | 1155UE<br>TYPE              | SAMPLE<br>DATE         | Aldrin         | Elpha<br>Chlor<br>dena |                                   | r. Chier       |                             | E is .<br>Nona .<br>chi or | trans-<br>Hons-<br>chlor | Oxy<br>ehlor<br>dare          |
|--------------------------|----------------------------|----------------------------------|----------------|-----------------------|----------------|----------------------------|-----------------------------|------------------------|----------------|------------------------|-----------------------------------|----------------|-----------------------------|----------------------------|--------------------------|-------------------------------|
| 109.10.10<br>109.10.10   | HAD RIVER<br>MATI RIVER    |                                  |                | \$F.U                 | FiX —          |                            | -                           | 08/29/85               | HĀ<br>HA       | H                      |                                   | MA H           |                             |                            | HA<br>HA                 | # #<br># #                    |
| \$20.11.03<br>\$20.11.03 | COLUSA DRA                 | IN/KNTGNT <b>S</b><br>IN/KNTGNTS | LANDING A      | City                  | HFE CAIF       |                            | F                           | 07/06/85<br>07/06/85   | 340.6<br>MD    |                        | 10                                | NO N           |                             |                            | 205.4<br>633.2           |                               |
| STAT JOH                 | fotal<br>Chilar<br>tlane   | thior-<br>pyrifes                | bactlial ***   | 0,p1                  | p.p'<br>bub    | o,p*                       | P, F<br>006                 | 0,p                    | p, p'          | р,р'<br>рону           | р, р <sup>1</sup><br>вон <b>s</b> | lot et<br>001  | Bleldrin                    | Erdo-<br>sulfan            | Ereo-<br>sulinn          | Erelo-<br>sul fon<br>Sul face |
| 107.10.10<br>102.10.10   | HĀ TA                      | NA<br>NA                         | HA<br>NA       | HĀ.                   | ii<br>H        |                            |                             | HĀ HĀ<br>MA HA         | ŅĀ.<br>MA      | HA<br>HA               | HĀ.<br>NA                         | , HA           | HA<br>HA                    | HĀ<br>NA                   | HX                       | · NA                          |
| 520.11.03<br>520.11.03   | 8.205<br>63.1.2            | ND<br>ND                         | ND<br>ND       | MD<br>ND              | 2702.<br>4785. |                            | 15493                       | . 9 NO                 | 110<br>NO      | HD:                    | MD                                | 18198.7        | 900.9<br>471.2              | 28A,3<br>ON                | NA<br>NO<br>IID          | NA<br>ND<br>ND                |
| STATION                  | finial<br>Engle-<br>sulfan | Fodr in                          | algha:<br>BCII | gaint<br>HCH<br>gaint |                | Henta-<br>chlor<br>Epoxide | Hexa-<br>chlora-<br>bensene | Ethyl<br>Para<br>thion | PCB<br>1248    | PC8<br>1254            | PC8<br>1260                       | lotal<br>PCB   | Penta-<br>chloro-<br>phenol | loxaphi                    | rne E                    | hem<br>roup<br>A              |
| 107.10.10                | PrA<br>NA                  | HĀ<br>NA                         | HA HA          | ii<br>tr              |                | ŅĀ<br>NA                   | HĀ<br>HA                    | HA                     | HA             | ĦĀ                     | MĀ                                | NĀ             | MD -                        |                            |                          | — ## ——                       |
| 520.11.03<br>520.11.03   | 2005.3<br>00               | ND<br>ND                         | HD<br>HD       | H                     | D              | HD<br>HD                   | HD<br>HD                    | HA<br>NO<br>NO         | HA<br>HD<br>HO | HA<br>HD<br>HD         | NA<br>ND<br>ND                    | NA<br>NO<br>ND | 119.8<br>RA<br>NA           | H)<br>H                    | 0 1                      | NA<br>1935.2<br>1106,4        |

 $P_{p_i}$ 

NA means that the sample was not avalyzed for the chemical.

NO means that the chemical was not detected (detection limit not determined).

The means that the chemical was not detected above the indicated limit of detection.

F = Filet W = Whole Body

Chemical Group  $\Lambda$  includes the sum of ablilu, dieldrin, vadrin, heptachlor, heptachlor epoxide, chlordane, hexachtorocyclobexane, endosulfan, and toxaphene.

<sup>\*</sup> NOT WITHIN NORTHERN DISTRICT BUT WITHIN THE MONITORING AREA

# Toxic Substances Honitoring Program Summary of 1986 Data: Organic Chemicals in Fish (ppb, wet weight)

| STATICS<br>MERGIFF                           | STAIT<br>HAME                         | •                    |                         |            |                |                         | ECYTICN<br>HAME            |                         |       | 115               |                      | SAMPLE<br>DATE                 | Aldrin                      | sigha-<br>Chitor-<br>done  | Chior.<br>Chior.          | ganing-<br>thing-<br>dens | trens<br>Chter<br>dans    | · Hers               | . Norm.                | chier.                     | Inial<br>Chlor-         |
|--|---------------------------------------|----------------------|-------------------------|------------|----------------|-------------------------|----------------------------|-------------------------|-------|-------------------|----------------------|--------------------------------|-----------------------------|----------------------------|---------------------------|---------------------------|---------------------------|----------------------|------------------------|----------------------------|-------------------------|
| 165 (58, 38<br>511,40,00<br>637,20,01        | MEALIGHTEA<br>SACRAMENT<br>SKISAN R/H | n steuch             |                         |            |                | CAR                     | LIR TRADI<br>P<br>IGENOUTH |                         |       |                   |                      | 5371175<br>07724769<br>1070876 | <5.0                        | <5.0<br><5.0<br><5.0       | 45.0<br>9.7<br>45.0       | <5.0<br><5.0<br><5.0      | — स्डाह<br>•\$.6<br>•\$.6 | 45.0                 | 9.2                    | - বি:চ<br>ব্য:চ<br>ব্য:চ   | 16.7<br>16.7            |
| STATION                                      | Eliter - pyr I fos                    | Dacthal              | 0,p                     |            | p.p.           | o,p'                    | p.p'<br>bbe                | o, p'<br>bo l           | p.p.  | p.p'<br>DCHU      |                      | lotal<br>Dof                   | Blacknon                    | Dicolot<br>(Ket-<br>thane) | Dichle<br>benta<br>phenon |                           | æ1==1                     | ixio-<br>sulfam      | firlo-<br>sullan<br>It | tich-<br>sulfen<br>Sulfate | intal<br>Erch-<br>sulfa |
| 107 (50) 55 °<br>511 (40) 00<br>637 (20) 01  | <10.0<br><10.0<br><10.0               |                      | ₹10.6<br>₹10.0<br>₹10.6 | 1          | \$0.0          | ₹10.0<br>∢10.0<br>∢10.0 | 360.0                      | ₹10.0<br>₹10.0<br>₹10.0 | <10.0 | 415.0             |                      | ИП<br>410.0<br>ИВ              | <50.0<br>450.0<br>MA        | <100.0<br><100.0<br><100.0 | NA<br>NA<br>NA            | त                         |                           | 45.0<br>45.0<br>45.0 | NA<br>NA               | WA<br>WA                   | NO<br>NO                |
| STATEDS<br>SERVICE                           | Fish In                               | 964<br>964           |                         | ta:<br>ICH | ile i          | Ħ                       | gauna<br>HCH<br>Liretare   | lat<br>HC               |       | epta-<br>Nor      | Rept<br>chlo<br>Epos |                                | iera.<br>chloro-<br>bonzené | Eifyl<br>Para-<br>thion    | FCB<br>1248               | PCB<br>1254               | FE8<br>1260               | PCR                  | 1515                   | reis                       | Engeleal<br>Green<br>A  |
| 105 (50, 36)<br>511 (40, 00)<br>637 (20, 01) | <15.0<br><15.0<br><15.0               | ₹2.0<br>₹2.0<br>₹2.0 | - ₹ i &                 | 0.1        | - रहे.<br>- इ. | 0                       | ₹2.0<br>₹2.0<br>₹2.0       | RD<br>HD<br>HD          | 4     | 3.0<br>3.0<br>5.0 | -5.5<br>0.8≻<br>1.8≻ | •                              | ₹2.0<br>₹2.0<br>₹2.0        | <10.0<br><10.0<br>MA       | <50.0<br><50.0<br><50.0   | <50.0<br>59.0<br><50.0    | <50.0<br><50.0<br><50.0   | 59.0                 |                        |                            | 18. P                   |

HA Hears that the sample was not analyzed for the chemical.

## Toxic Substances Monitoring Program Summary of 1986 Data: Organic Chemicals in Fish (ppb, lipid weight)

| STATION<br>MUMIER                            | STATES.                                | AT .                     |     |        | HAME<br>ECHTICH              |                            | 1135UE<br>TYPE | SAMPLE                           | altha.<br>Chior-<br>dene      | elg.<br>Chtor-<br>dane  | Entire ·<br>Chlor ·<br>dene | Chlor.                        | Heria- 1   | rans<br>lova<br>filor | Oxy<br>chlor<br>dans | ioini<br>Chier-<br>chier |
|--|--|--------------------------|-----|--------|------------------------------|----------------------------|----------------|----------------------------------|-------------------------------|-------------------------|-----------------------------|-------------------------------|------------|-----------------------|----------------------|--------------------------|
| 164   57, 52,<br>511, 40, 60<br>637   20, 01 | REALIGHTON<br>SACRAMENTO<br>SUSAN RANG | r strixii 🛠              |     | CA     | IJA TARIJI<br>RP<br>Grencutn |                            |                | 03711783<br>07/24/86<br>10/08/86 | NO.                           | NO<br>176.8<br>NO       | MD<br>MD<br>MD              | , HD<br>NO<br>NO              |            | R5.8<br>HD            | R6<br>NO             | ₽0<br>3.43 . ¢<br>₩0     |
| STATION<br>MINNER                            | ryrlfos                                | Onethal                  | 0,p | p.p.   | 0,p'                         | p,p'<br>DDE                | 0,0'           | P.P'                             | p.p1<br>00HU                  | lotel                   | Dicarol<br>(Kel·<br>thane)  | Pichlora<br>benta-<br>phenore | 01519      |                       | Erelo<br>sulfan      | Field:<br>Sulfan         |
| 03.50.54<br>511.40.00                        | 96                                     | in                       | HØ  | II)    | 110                          | 70                         | HO             | NO.                              | <u>M</u>                      | 90                      | ×0                          | - NA                          |            |                       | 50                   |                          |
|  | KO                                     | HO                       | NO  | 1014.2 | NO                           | 7302.2                     | ЖÓ             | XD                               | NO ON                         | 6316.4                  | HO                          | NA.                           | NO         |                       | HD.                  | RA.                      |
| 37,20,01                                     | HD                                     | M)                       | HĐ  | MD     | иņ                           | Mh                         | ME             | HO                               | M)                            | ND                      | ¥Ď.                         | MA                            | HA         |                       | ND.                  | PA.                      |
| STATION<br>HERMER                            | tivi;<br>sulfan<br>Sulfate             | lotal<br>Eirlo-<br>sutfa |     |        | atina-<br>nen                | gains<br>NCN<br>(Efreises) | HCM            | licrita-<br>chior<br>Epoxide     | Reserve<br>chlora-<br>benzene | Ethyl<br>Parn-<br>thion | FC#<br>1254                 | FCB<br>1260                   | FC#        | Faxap                 | hene                 | Elienien<br>Group<br>A   |
| 165.56.35                                    | Hi                                     | MO                       |     | NO     | ND.                          | NO                         | MÖ             | HO                               | HÖ                            | NO                      | NO NO                       | NO                            | <b>R</b> . |                       | <del></del> -        | pp                       |
| 511.40.00                                    | HA                                     | NO                       |     | ND     | MO                           | HD                         | ND             | NO                               | ND                            | ж                       | 1176.8                      | ND                            | 1195.8     | , ,                   |                      | 3713.4                   |
| 637.20.01                                    | ĦĀ                                     | RD.                      |     | NO     | ND                           | ND                         | HO             | ND                               |                               | WA                      | MD                          | iko                           | 1179.0     | R                     |                      | 2413.4<br>RD             |

NA Heard that the sample was not detected interthe chemical. NO Heard that the chemical was not detected interesting limit not determined).

Chemical Group A includes the sum of aldrin, dieldrin, endrin, heptachlor, heptachlor epoxide, chlordane, hexachlorocyclobexane, endosullan, and toxaphene.

Homes that the chemical was not detected (detection limit not determined),

<sup>7 =</sup> filet W = Whole Body

f = filet

## Toxic Substances Monitoring Program Summary of 1987 Data: Organic Chemicals in Fish (ppb, wet weight)

| \$18169<br>Marora        |                     | SEAT FOW                 |            |                   | trecies<br>trace | I 4 S S U E<br>E Y P E | SAMPLE   | ALUF IF    | Chlor<br>dene   |                   | garma ·<br>Chtor ·<br>dene | trens.<br>Chilare<br>dans | None-          | fränd:<br>Nord:<br>chlor | dane<br>dane     | loial -<br>Chtor -<br>dane | Elilor:<br>pyrllo | 665163   | de In                 |
|--------------------------|---------------------|--------------------------|------------|-------------------|------------------|------------------------|----------|------------|---|-------------------|----------------------------|---------------------------|----------------|--------------------------|------------------|----------------------------|-------------------|----------|-----------------------|
| 168,11,163               | 140000              | i #2624 #                | 3614 19KB  | A                 | 111              | 1                      | 85718782 | ES         | HZ  |                   | 11                         |                           |                | III                      | MX               | - pt                       | #X                | _ ##     | \$£                   |
| 111.17.01                | EEL #/              | SCOISA                   |            |                   | SCP              | j.                     | 07/10/8  |            | HA  | · NA              | MA                         | WA                        | MA             | MA                       | MA               | N4                         | MA                | A.N      | HA.                   |
| 111.21.01                |                     | ZER RYMON                | H M        |                   | 184              | Ţ                      | 07/11/8  |            | MA  | He                | 24                         | MA                        | MA             | KA<br>AK                 | HA<br>HA         | pa<br>na                   | WA.               | TR.      | ¥4<br>#4              |
| 111.21.07                |                     | 54/26411#<br>71014   FAR | -          |                   | 185<br>867       | ,                      | 07/11/8/ |            | WA  | MA.               | WA                         | WA                        | RA<br><\$.8    | 3.0                      | ₹5.0             | ND                         | <10.0             | 45.0     | 3.0                   |
| 115.72.01                |                     | /1915 LAL                |            |                   | SP.              | ŭ                      | 10/20/87 |            | <5.8  | 43.0              | 45.0                       | <5.8                      | 45.0           | 3.0                      | 45.0             | 110                        | (D.0              | 3.0      | (5.0                  |
| 508.10.42                |                     | HIO #/1E                 |            |                   | 101              | i                      | 10/08/87 |            | 43.0  | 45.0              | -3.0                       | 3.1                       | 45.0           | 43.0                     | 45.0             | ND                         | 10.0              | 3.9      | 45.0                  |
| 110 to 42                | PACLANI             | THIO B/ET                | SUITE      |                   | 588              | ī                      | 10/08/82 |            | -5.0  | 45.0              | 45.0                       | 45.0                      | 45.0           | 45.0                     | (5.0             | ND                         | 110.0             | -5.6     | 45.0                  |
| 519.22.01                | SACHAME             | Pla Stru                 | IGR 💥      |                   | LHB              | F                      | 08/21/87 |            | <5.0  | -5.0              | <5.0                       | <5.0                      | <5.0           | <5.0                     | 45.6             | MD                         | <10.0             | <\$.0    | <5.0                  |
| 319.22.70                | PEATRE              | 1 8/0/5 H                | 101 64 MBC | *                 | 3HB              | F                      | 08/25/87 | <5.0       | <5.0  | 43.0              | <\$.0                      | <\$.D                     | <5.0           | <3.0                     | <5.0             | ND                         | <10.0             | 15.0     | <\$.0                 |
| 520.21.50<br>526.65,10   | COLUSA              | DAVINAL                  | IIGMIS CAN | n i wr 🥂          | CCT              | !                      | 07/25/8  |            | 45.0  | 45.0              | <5.0                       | 45.0                      | 4\$.D          | 45.0                     | 43.0             | HD                         | 410.0             | e\$.0    |                       |
|                          |                     |                          |            |                   | Ect              | ,                      | 10/20/03 |            | <5.0  | 45.0              | <5.0                       | <5.0                      | 45.0           | <5.0                     | <5.0             | MD                         | +10.0             | 45.0     | <\$.0                 |
| \$78.81,10               | F F C 470           | 75 HVY 7                 | 77 015     |                   | SER              | •                      | 10/50/41 | 45.0       | 45.0  | 43.0              | <5.0                       | 45.0                      | +\$.6          | 45.5                     | <\$.0            | NO                         | in.è              | 45.0     | ·5.0                  |
| # 10 1 A 1 Z             | n.p                 | F.P                      | o.p        | P.P.              | 0.0<br>001       |                        | ,p' p    |            | P.P.  | 1011              | BIZZIET                    | - 686                     | BIBEING        | i Ende-                  |                  | an gir                     | lfan I            | intel    | "स्त्रतः।तः           |
| 127:11 27                |                     | <b></b>                  |            |                   |                  |                        | _        |            |   |                   |                            |                           |                | ,                        | 11               | 511                        | linte :           | tul fars |                       |
| 165:11 65<br>111:12:01   | HĀ.                 | 77                       | NA         | HA                | PI               | P                      |          | i          | NA.   |                   | ##                         | WX-                       | W.             | NA                       |                  |                            | FI                | - FA     | #1                    |
| 111.21.01                | RA.                 | HA<br>HA                 | NA<br>NA   | #4<br>***         | le A             | K                      |          | <u> </u>   | MA  | MA                | • #A                       | RA                        | MA             | MA                       | NA               |                            | RA.               | NA NA    | HA.                   |
| 111.21.02                | SA.                 | UA                       | WA.        | HA<br>AM          | AN<br>Au         | . 4                    |          | ra<br>.a   | XA.   | MA                | MA                         | 神典                        | NA             | MR                       | HA               | 1                          | HA                | 84       | iii.                  |
| 115.92 01                | +10.6               | -10 D                    | 10.0       | 6.4               | *10.1            |                        |          |            | #A  | MA.               | C. NA                      | HA                        | PA .           | MA                       | NA               |                            | HA                | AR       | 44                    |
| 115.72.01                | 10.0                | 10.0                     | 10.0       | -5.0              | 10               |                        |          |            | 30.0  | 6. ¢<br>PO        | *100.0                     | NA<br>NA                  | 450.0<br>450.0 | 45.1                     |                  |                            | MA                | ЖÐ       | <15.0                 |
| 508. ID 42               | - 10 O              | -10 0                    | 410.0      | 9.9               | 10.0             |                        |          |            | 30.D  | 9.9               | *100.0                     | 70                        |                | a 45.5                   |                  |                            | KA -              | MD       | 415.0                 |
| 598 10 42                | + 10 0              | +10 B                    | -19 9      | 11.0              | 10 1             |                        |          |            | 30.0  | 33.0              | <100.0                     | WA.                       | <50.0<br><50.0 |                          |                  |                            | 15.0<br>15.0      | ND<br>ND | <15.0                 |
| 519.22.01                | <10.0               | <10.0                    | <10.0      | 53.0              | <10.0            | - (1                   | 0.0 41   |            | 30.D  | 53.0              | <100.B                     | WA                        | <\$0.0         | €3.                      |                  |                            | HÅ.               | ND.      | 415.Q                 |
| 519.22.90                | <10.0               | 10.0                     | +10.0      | 14.0              | <10.I            |                        | 7.D <    | 3.0        | 30.0  | 14.0              | 4100.0                     | NA                        | <50.B          | 3.                       |                  |                            | RA<br>RÅ          | ND.      | 115.0                 |
| \$20.21.50<br>\$26.65.10 | *10.0<br><10.0      | \$7.0                    | 110.0      | 170.0             | <10.0            |                        |          |            | 30.0  | 247.0             | <100.0                     | WA.                       | 450.€          | 45.1                     |                  |                            | 85.0              | NO       | <15.0                 |
|                          |                     | <10.0                    | <10.0      | , 45.0            | <10.0            |                        |          |            | 30.0  | . NO              | <100.0                     | MA                        | 450.0          | <\$.1                    |                  |                            | MA                | NG.      | <15.0                 |
| \$26,64.1n               | +101,0              | rte, e                   | < IH , D   | -5.0              | .10.             |                        |          |            | 10.0  | NB                | +100.0                     | WA                        | +50.0          | <5.0                     | ) #A             | ,                          | 4.4               | 14th     | e13.11                |
| STATION<br>STATION       | 51 <sub>7</sub> 253 | Political<br>Political   | nen ,      | MCH<br>Et levlare | I ACH            |                        | inr ci   | stor. (    | leis:<br>chtere-<br>bentene   | Feiliary<br>chlor | Elfiyl<br>para-<br>thion   | FC <b>1</b>               |                | 254                      | FEB<br>1260      | 15141<br>rce               | Takan             | iana t   | Sealest<br>Grown<br>A |
| 163:15 65                | · ha                | · 84 ··                  | ps         | pt                |                  | R                      | ,        | i          |   |                   |                            |                           |                |                          |                  |                            |                   |          |                       |
| 111 12 01                | NA.                 | NA<br>NA                 | RA.        | H A               | **               | r<br>H                 |          | IA<br>IA   | RA<br>NA  | NA.               | 74                         | H                         |                |                          | II.              | HI.                        | ,                 |          | II                    |
| 111.21.01                | HA                  | WA                       | HA         | H4                | ×4               | ,<br>k                 |          | in.        | NA<br>NA  | NA.               | NA<br>NA                   | . 24<br>24                | . H            |                          | HA<br>HA         | NA<br>Na                   | ×                 |          | MA<br>MA              |
| 111.21.02                | WA                  | 44                       | NA.        | WA                | WA               | N.                     |          | A          | NA  | WA.               | ×A                         | WA.                       |                |                          | NA.              | HÀ                         | *                 |          | RA.                   |
| 115.92.01                | 45.0                | 10 0                     | 45.0       | +5.0              | NO               |                        |          | 3 · 0      | -2.0  | <15.0             | e10.0                      | 430.                      |                |                          | ₹50.0            | ND                         | ٠١ <del>٥</del>   |          | NO                    |
| 115.72 Q1<br>308.10 42   | 12.0                | *10.0                    | 45.0       | -5.0              | 1111             |                        |          | 5.0        | 42.0  | <15.0             | <10.0                      | 450.                      |                |                          | 450.0            | HĐ                         | +10               |          | NO.                   |
| 508.18.47                | -2.0                | 10.0                     | -5.0       | 5.0               | ND<br>UN         |                        |          | 5 9        | 12.0  | 115.0             | 10.0                       | <50.                      |                |                          | 4 <b>5</b> 0.0   | NO                         | 110               |          | WD<br>WD              |
| 519.22.01                | <2.0                | <10.0                    | -5.D       | ₹.0               | -                |                        |          | 3.0        | 45.0  | <15.0             | <10.0                      | <50.                      |                | 1.0                      | 52.0             | 52.0                       |                   |          | MD<br>MD              |
| 519.22.90                | <2.0                | e10.0                    | 45.0       | 42.0              | MD<br>MD         |                        |          | 5.0<br>5.0 | <z.0< td=""><td>&lt; 13.0</td><td>&lt;10.0</td><td>&lt;\$0.</td><td></td><td></td><td>&lt;\$0.0<br/>&lt;\$0.0</td><td>MD<br/>MD</td><td>&lt;10<br/>&lt;10</td><td></td><td>ND</td></z.0<> | < 13.0            | <10.0                      | <\$0.                     |                |                          | <\$0.0<br><\$0.0 | MD<br>MD                   | <10<br><10        |          | ND                    |
| 520.21.50                | 42.0                | <10.0                    | <5.0       | 2.0               | ND<br>ND         |                        |          | 3.0<br>3.0 | 42.0  | <15.0             | <10.0<br><10.0             | <\$0.<br>4\$0.            |                |                          | <30.0<br><50.0   | NO.                        | 410<br>410        |          | NO                    |
| 526,65,10                | 47.0                | 10.0                     | 45.0       | 42.0              | MD               |                        |          | 5.0        | 42.0  | 15.0              | <10.0                      | <b>450.</b>               |                |                          | <50.0            | HD                         |                   | 0.0      | MD.                   |
| 254.14.10                | 15.10               | A. at.                   | 45.70      | 7.0               | Иħ               | •                      |          | 45.0       | 12.0  | ₹15.B             | <10.0                      | 450.                      |                |                          | 450.B            | нв                         |                   | 9.0      | WD                    |

| Summary of 1987 Data: Organic Chemicals in Fish (ppb, lipid w | relabil) |
|---|----------|
|---|----------|

|                        |                 |              | -        |          |            |               | _113F15  |           |          | # Le tivit . | ti nns ·   |          | front.             | 7.7.      | 15761    |
|------------------------|-----------------|--------------|----------|----------|------------|---------------|----------|-----------|----------|--------------|------------|----------|--------------------|-----------|----------|
| STATION                | 5348109         |              |          | 113312   |            | SAMPLE        | #1G: 111 | Chier     | chitor   |              | chtor-     | HO19     | Rgit 1:            | chlar -   | thiar.   |
| Mi bered B             | HAFF            |              |          | ECENE    | 1115       | DATE          |          | d-n-      | dane     | dene         | dane       | chtor    | ehl <del>o</del> r | dane      | dane     |
| 16X .11 65             | 18 16 11 8 16.  | is midia ba  | Ud li    | 1 661    |            | ** 69718787** | NI       | na        |          |              | tx         | - 11     | zi                 |           | FI       |
|                        | EEL MISCOLL     |              |          | SCF      | ì          | 09/10/87      | NA.      | NA        | 24       | HA           | HÀ         | #4       | NA.                | HA.       | Ke       |
| 111.21.01              | VAN DITZET R    | /Mc1111      |          | 188      | ,          | 07/11/87      | HA       | NA.       | HA       | MA           | NA.        | RA       | NA                 | H4        | WA       |
|                        | PAGER CRYPTS    |              |          | 881      | ,          | 97/11/87      | MA       | NA        | MA       | WA           | NA.        | MA       | HR                 | HA        | YA.      |
|                        | TOSS BYTTHE     |              |          | RC11     | v          | 10/20/87      | HD       | #Đ        | . 40     | ND           | ЯÜ         | NO '     | NO ON              | MD.       | PD D4    |
|                        | fost evide      |              |          | 5F*      | ν          | 10/20/87      | RD       | N.D.      | 70       | 140          | MO.        | 10 (     | NO.                | MO        | KD       |
|                        | Zur kruf nitt ! |              |          | 891      | ,          | 10/08/87      | KA       | ND        | RD       | NO           | HĎ         | MD       | , KD               | RD        | ND .     |
|                        | SACRAMENIA      |              |          | 26.0     | ,          | 10/05/87      | *D       | MD        | NR       | NO           | HD         | MB       | HD                 | MD .      | MD       |
| 519.22.01              | SACRAPENTO S    | Strange 🇨    |          | 1.HB     | !          | 08/21/87      | ND       | סא        | WD       | HD           | HØ         | ND       | MD                 | NO.       | MP       |
| \$19.22.50             | FEATHER BAD,    | 12 HOL 25 b  | 18G 28-  | \$118    | !          | 00/25/87      | ND       | ND        | MD       | HĐ           | NP .       | MD       | WD                 | ND        | KD       |
|                        | COLUSA BRAIN    |              | AND INC. | 123      | !          | 09/25/87      | MD       | ND        | XD.      | KĐ           | HO         | ND       | KD<br>KD           | NO<br>NO  | ND<br>ND |
|                        | PET NAMES IN    |              |          | 54.8     | ,          | 10/20/87      | HD<br>HD | NĐ<br>Hei | 90<br>90 | ND<br>NO     | NO<br>NO   | ND .     | NO<br>NO           | ND<br>ND  |          |
| 1, 15, 144, 150        | ELL AMOS II     | Dt 2.2 list. |          | SCR      | •          | 10/20/87      | MP       | P(t)      | ЯIJ      | mp           | RO .       | MU .     | H13                | RTI       | NO       |
|                        | istai           | 656 ibal     | ě, jř    |          | ē, p;      | F. 6:         | 7.5      | p. 6'     | - p.p:   | 72651        | - 6124371A | Prela:   | 635                | 11276     | 15151    |
| \$1A1101               | Ove 1 fms       | 17.41 17.41  | DIND.    | 9711     | DDF        | DOE           | 001      | 001       | 00/51    | 501          |            | sul fan  | sulfan             | giel lute | Ervio.   |
| Mitting B              |                 |              |          | ,        |            |               | *        |           | •        | •••          |            | ' i .    | 11                 | Sul tate  | RUE FRO  |
| 177:14 5-              |                 |              |          |          |            |               |          |           |          |              | —— II —    | — az —   | ##                 | BI        |          |
| 156, 13, 65            | ñλ              | 24           | HA.      | RA.      | PA PA      | HA.           | NA       | NA.       | . HA     | 114          | 74         | NA<br>AR | 20                 | HA        | WA       |
| 111.12.01              | IIA<br>Kā       | hv<br>Hv     | MA<br>MA | NA<br>Ha | #A         | HA<br>HA      | HA.      | NA<br>NA  | HA.      | NA<br>NA     | ÄÄ         | #A       | MA                 | NA.       | 1 84     |
| 111.21.07              | IIA.            | PA.          | ILA      | NA.      | WA.        | AR            | ¥A.      | NA.       | HA.      | WA.          | IIA        | HA       | MA                 | HA.       | MA       |
| 115.92.01              | 110             | lib<br>Gill  | 90       | HO       | Ne         | 766.3         | K0       | ND.       | 20       | 766.3        | , 10       | ND       | HA                 | HA        | NO       |
| 115.22.01              | ***             | vin          | WD.      | HD       | 70         | 107           | ND .     | ND.       | HO       | 40           | 110        | MD       | MA                 | HA        | чb       |
| 508.10.62              |                 | 71.7         | HD       | IND      | MD         | 156.4         | MD       | ×O        | HD .     | 156.4        | MD         | NO.      | HD                 | *D        | ИÐ       |
| 500, 10, 42            | 1111            | MD           | 110      | PO.      | MD         | 502.3         | MD       | XO        | ИĎ       | 502.5        | NO         | MD       | ni.                | NO        | *0       |
| \$17.22.01             | 1rD             | HO           | WD.      | KD       | WD         | 23043.5       | ND       | MD        | ND       | 23043.5      | XD.        | MD.      | NA                 | 21        | ND       |
| 319.22.50              | MD              | HD           | KD       | 10       | KD         | 5384.6        | KD       | ND        | NO       | 3394.6       | #D         | MD       | NA.                | MA        | ND       |
| \$20.21.50             | HD              | MD           | ND       | 5588.2   | KD         | 18627.4       | HD       | WD        | ND       | 24715.6      | NO .       | KD       | MD                 | NO        | ЯÐ       |
| 526.65.10              | ND              | ND           | ИÐ       | NO       | ND         | ND            | ND       | WD        | ND       | MD           | MD         | ND.      | MA                 | *4        | M.D.     |
| \$26,63,30             | Hitt            | Lħ.          | Mb       | up       | RD         | סע            | Mb       | HĐ .      | ИÐ       | ND           | ¥0         | 100      | HĄ                 | WR        | ИÞ       |
|                        | - maria         | ng.pena :    |          | ai ai    | Neel a     | Rei I         | Retho    |           | Finia:   | - #54        | - FEB      | 15151    |                    | agrene    | the lest |
| 51A1104                | £150 (4)        | ORH.         |          | BC#      | chipr      | chlore        | chlo     |           | chlore.  | 1234         | 1260       | PCB      |                    |           | Sr prep  |
| HI DSHED               |                 | CL Livlar    |          | IM.N     | Eprix lide | benrane       | Çii di   |           | thena!   | 1234         | 1450       |          |                    |           | Ä        |
|                        |                 |              |          |          | •          |               |          |           | •        |              |            |          |                    |           |          |
| 103013-03              |                 | A            |          | . M#     | 81         | NA            | P1       |           | _314:5_  | ž.           |            | #1       |                    | 94        | 11       |
| 111.12.01              | KW              | #A           |          | Ma.      | P4         | HÁ            | NA.      |           | ЖĐ       | 84           | HA         | WA       |                    | K4<br>H4  | HA<br>HA |
| 111.21 01              |                 | NA           |          | MA       | HA         | H4            | RA       |           | ND       | 114          | NA<br>NA   | H4<br>VA |                    | YA.       | 44       |
| 111 21 02              |                 | MA           |          | 14       | WA         | SA.           | 48       |           | MO       | HA           | ND         | ND       |                    | ND        | סע       |
| 115.92.01              |                 | HD           |          | ND       | 40 .<br>Uk | NO<br>HD      | NO<br>NO |           | HA<br>HA | NG<br>NO     | WD CH      | MD       |                    | MD        | פע       |
| 115.92 91              |                 | HD<br>HD     |          | ND<br>ND | HO HO      | MD<br>MD      | NO<br>RB |           | NA<br>NA | HQ           | . 10       | פא       |                    | NO        | HD       |
| 508.10 47<br>508.10.47 |                 | HO           |          | MD<br>MD | HD HD      | KD.           | NO<br>NO |           | HA.      | MD<br>MD     | 771.5      |          | 5                  | ND        | ИÐ       |
| \$19.22.01             |                 | NO<br>NO     |          | MD.      | ND .       | #D            | HO       |           | ¥4       | ND           | MD         | MD       |                    | NO        | NO       |
| \$19.22.90             |                 | NO<br>NO     |          | NO<br>NO | KD.        | , MD          | RO       |           | ¥A       | ND           | ND.        | ND.      |                    | ND.       | . ND     |
| 520.21.50              |                 | #D           |          | NO.      | ND.        | MD.           | HO       |           | ŔĀ       | ND ND        | MD         | WD       |                    | ND        | ND       |
| 576.61.11              |                 | RD           |          | ¥Đ       | ND         | NO            | Wb       |           | HÃ       | ИĎ           | NO         | KD       |                    | ND        | RĐ.      |
| 526,65,1               | 40 0            | , are        |          | MD.      | 4479       | MĐ            | WE       | ļi.       | WA       | NO.          | · NO       | ND       |                    | M(T)      | ND.      |
|                        |                 |              |          |          |            |               |          |           |          |              |            |          |                    |           |          |

AN Alexans that the sample was not analyzed for the chemical.

An Alexans that the showlest was not detected.

Thomas that the chemical was not detected above the indicated limit of detection.

F = Filet . W = Whole Body

the ode of Group A includes the sum of shiftin, dichlain, ending hypercular, heptschlor spoulds, the ideas, hove blomey clobe sone, reduciden, and toxaphene

Y THE CONTINUE ENDOTTIONS INCOMED BUT WITHIN THE RESISTANDING AREA

# Species Analyzed During the 1987 Toxic Substances Monitoring Program Listed by Code

| WITHIN NORTHERN DISTRICT AND THE MONITORING AREA |                  |                           |               |  |
|--|------------------|---------------------------|---------------|--|
| Code   | Common Name      | Species                   | Family        |  |
| CCF  | Channel Catfish  | lctalurus punctatus       | lctaluridae   |  |
| GSF  | Green Sunlish    | Lepomis cyanellus         | Centrarchidae |  |
| LMB  | Largemouth Bass  | Micropterus salmoides     | Centrarchidae |  |
| RBT  | Ralnbow Trout    | Salmo galrdneri           | Salmonidae    |  |
| RCH  | Callfornia Roach | Hesperoleucus symmetricus | Cyprinidae    |  |
| SCP  | Sculpin          | Cottus sp.                | Cottldae      |  |
| SKIT   | Sucker           | Calosiomus sp.            | Catostomidae  |  |
| SMB  | Smallmouth Bass  | Micropterus dolomieul     | Centrarchidae |  |
| SP   | Sacramento Perch | Archoplites Interruptus   | Centrarchidae |  |
|  |                  |                           |               |  |

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#### 1987 Toxic Substances Monitoring Program Station Number Changes

| New Station<br>Number | Old Station<br>Number | Station Name                          |   |
|-----------------------|-----------------------|---------------------------------------|---|
| 109 10.06             | 109.10.10             | Mad River                             |   |
| 504.20.03             | 523.12.10             | Sacramento River/Hamilton city        |   |
| 506.10.00             | 526.22.00             | Mccloud River/McCloud River Bridge    |   |
| 506.10.03             | 525.11.01             | Shasta Lake/Squaw Creek Arm           |   |
| 500.10.42             | 524.47.15             | Sacramento River/Keswick              |   |
| 519 22.01             | 511.40.00             | * Sacramento Slough                   |   |
| 519.22.90             | 511.40.04             | * Feather River/D/S Highway 99 Bridge |   |
| 520.10.00             | 519.10.07             | ₩ Neclamation Slough                  |   |
| 520 10.04             | 519.10.06             | * Sutter Bypass                       | • |
| 520.21.90             | 520.11.03             | * Colusa Drain/Knights Landing        |   |
| 520.21.91             | 520.11.36             | Colusa Drain/Abel Road                |   |
| 526.41.06             | 526.42.02             | Fall River                            |   |

## Toxic Substances Monitoring Program Station Name Changes

| Station<br>Number | New Station Hame                        | Old Station Name        |     |
|-------------------|---|-------------------------|-----|
|                   | • · · · · · · · · · · · · · · · · · · · |                         | •   |
| 506. FD. OO       | Hotland River/H/S Hotland River Bridge  | McCloud River           |     |
| 19,22,20          | Teather River/D/S Highway 97 Aridge     | fenther River/Nicholas  | • • |
| 26.63,10          | Pit River/D/S Hwy 299 Bridge            | Plt River/D/S Hodoc Nur | •   |
| 37.20,22          | Suson River/Litchfield                  | Susan River             |     |